Futurework

Trends and Challenges for Work in the 21st Century

By the U.S. Department of Labor

A Thoroughly Researched, Well-Written Review of Major Trends and Issues That Affect Every Working Person

Major topics include

- The changing American workforce
- Wage and benefit information
- Work and family interactions
- Changes in workplace conditions and types of employers
- Impact of rapidly changing technologies
- Likely future trends
- Internet impact and resources

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Based on the Most Extensive, Up-to-Date Labor Market and Employment Data

Using the government's vast data resources, *Futurework* provides a comprehensive, insightful look at work in America today and trends that will impact work in America tomorrow. This book is written in layman's terms, so you don't have to be an economist or have an MBA to understand it. Many tables and charts are used to clarify and emphasize points.

Futurework is a great resource for career changers, employers, human resource and business professionals, educators, and anyone concerned about challenges and changes in the workplace.

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Futurework
Trends and Challenges for Work in the 21st Century

By the U. S. Department of Labor

This is the only book with the complete contents of the original report, which was released in electronic form on the U.S. Department of Labor's Web site.

A Portion of This Book's Proceeds Goes to Charity. We are donating 3 percent of the proceeds from each Your Domain title to nonprofit research, educational, or direct-service projects. Our interests are in career assessment, self-help, literacy, job search, and other important topics—with particular interest in projects that will improve program results and encourage self-directed solutions. Since much of the content of Your Domain titles is based on government sources, we think this is an appropriate way to say thanks to the many good people who work in government positions creating these materials and doing other important tasks.

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About This Book

This content was originally released by the U.S. Department of Labor in electronic form on its Internet site. We think that the material is so important and well done that we wanted to give it the wider audience that a printed book would achieve. This is the only book version of the original, and it includes the complete contents of the electronic version.

Written by a team of researchers and writers from the U.S. Department of Labor, Futurework provides exceptional writing and well-researched insights into the major trends and issues for everyone interested in the future of work and workplaces. It explores and evaluates the constants in workers' lives and how they intersect with the expected changes in the twenty-first century work environment.

The first few chapters discuss the future of the workforce and examine demographic trends; changes in wages and benefits; the relationship between higher wages and higher skills; the pay gaps between women and men, among African Americans, Hispanics, and whites, and between people with disabilities and those without; the effect of unions on wages, benefits, and working conditions; and the evolving work and family balance issues.

Later chapters focus on the future of the workplace, covering changes in the relative importance of different sectors of the economy; changes in workplace conditions, including safety, health, and discrimination; and the effect of technology and globalization on the ways people work as well as the impact these changes have on the skill requirements of the workforce.

The final chapters examine the themes of the workforce and workplace, looking at rising skill requirements, flexibility in the workplace, and job security.

Who Can Use This Book

Here are just a few examples of people who can benefit from reading this book.

- **Educators** will discover challenges their students are going to face in the world of work and can use this information to help students successfully make the transition from school to work.
- **Working people** will discover trends that are going to affect their work lives.
- **Business leaders** will gain insights into human resource issues that will impact their organizations now and in the future.
- **Counselors and other career management professionals** will gain knowledge that can help clients and students more effectively plan their careers.
- **Employment and training professionals** will find many ideas that can be used in making policy and program decisions.
- **College and high-school students** will learn about the realities of the labor market and workplace in the 21st century.

The Content of This Book Was Created by the Good People at the U.S. Department of Labor

We'd like to thank the people at the U.S. Department of Labor for their efforts in developing the content of this important book. The electronic version originally appeared on the U.S. Department of Labor's Internet site at www.dol.gov. The credits that appeared in the original Internet edition follow as they appeared there.

This volume could not have been produced without the work of staff across the Department of Labor. Contributors include Sam Afridi, Barbara Bingham, Elena Carr, Mario Distasio, Ray Donnelly, Roland Droitsch, Carl Fillichio, Hank Guzda, Joe Hight, Meg Ingold, Jim Jones, Lynn Kinzer, Judd MacLatiry, Sondra Nixon, Gary Reed, Ruth Samardick, Fred Siskind, Sue Smock, Lisa Stuart, Jessica Tucker-Mohl, John Turner, and Suzanne Windle.

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Introduction: Executive Summary

Perhaps the best place to gain a glimpse of the future of work is in the newspaper. Not the front page—but the want ads.

A few decades ago, employers were in search of typists, switchboard operators, mimeograph repair technicians, keypunchers, and elevator operators. Newspapers even had separate job listings for men and women.

Today's want ads are seeking Webmasters, LAN operators, desktop publishers. And many job seekers no longer turn to the want ad pages but to the Web pages. They find their jobs on the Internet.

Just a few decades ago, business magazines celebrated the latest office technology—cutting-edge equipment such as electric typewriters and dictaphones. Today, it is more like digital phones and personal digital assistants.

We are living in a world few could have imagined 50 years ago. What will the workforce and workplace look like half a century from now?

We can begin to tackle that question by examining where we have been, where we are, and where we are going. That is what Futurework: Trends and Challenges for Work in the 21st Century seeks to do.

It is designed to inform readers—policy-makers, scholars, employers, workers, trade unionists, and advocates—to generate questions and to stimulate dialogue.

We are living in a new economy—powered by technology, fueled by information, and driven by knowledge. And we are entering the new century with opportunity on our side.

The American economy is the strongest in a generation—perhaps in history. But amidst this prosperity comes concern. Families are working harder. Parents are stretched for time. According to Bureau of Labor Statistics data, real wages fell through the 1980s and early 1990s and just recently recovered their average value from 1980. Some Americans have

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Some of the fastest growing occupations for the future

Computer engineers

Medical assistants

Computer support specialists

Paralegals

Database administrators

Personal care and health aides

Data processing equipment repairers

Physician assistants

Dental hygienists

Residential counselors

Desktop publishing specialists

Securities and financial sales workers

System analysts

not been brought into the workforce. And workers young and old wonder whether they have the skills to stay ahead in the workplace of the future.

Even in today's dynamic economy, there are some things that remain important. There are three pillars providing stability in workers' lives:

- Rising economic security over a lifetime—so a worker can have food on the table, a roof overhead, health care when needed, and a secure income for retirement.
- A work and family balance—the resources and the time to enjoy family life and meet the needs of children and aging parents.
- Workplaces that are safe and fair—free from health hazards and from discrimination and other unfair employment practices.

The ability of workers to meet these needs will be substantially determined by major changes in the workplace and workforce of today and tomorrow. These changes include diversity, technology, and globalization.

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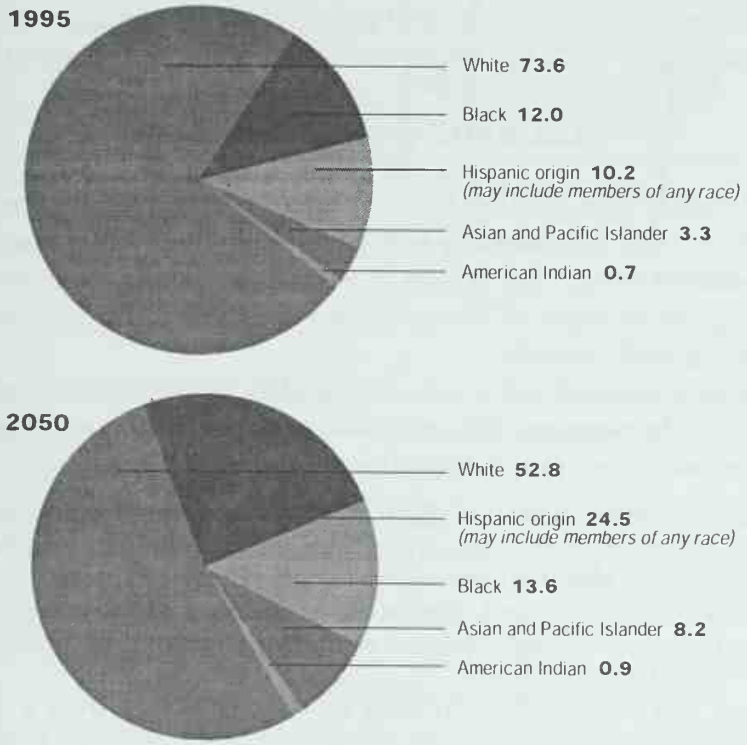
changes in population



DIVERSITY

By 2050, the U.S. population is expected to increase by 50 percent, and minority groups will make up nearly half the population. Immigration will account for almost two-thirds of the nation's population growth. The population of older Americans is expected to more than double. One-quarter of all Americans will be of Hispanic origin. Almost one in ten Americans will be of Asian or Pacific Islander descent. And more women and people with disabilities will be on the job.

TECHNOLOGY

The use of computers and the Internet in workplaces will become more pervasive and the functions performed using computers will dramatically increase. The influence of technology will go beyond new equipment and faster communications, as work and skills will be redefined and reorganized.

GLOBALIZATION

Increased global competition will continue to affect the type of work being done in American workplaces, creating new high-skilled jobs and lessening demand for low-skilled work. The impact of globalization on all Americans will continue to grow as more of the economy is involved in producing exports or competing with imports.

Working families will continue to pursue stability in the midst of these dynamic changes in the economy and population. Three major challenges for the twenty-first century workplace and workforce will result.

- The challenge of being **skilled, not stuck,** in the new economy—as technology and globalization open more opportunities for those who have access to the tools to build their skills but reduce the supply of lower-end jobs.
- The challenge of **flexibility and family** as employers seek more flexibility to compete in the global marketplace and workers pursue more opportunities to spend time with their loved ones.
- The challenge of **destiny and diversity** as employers hire from a more diverse pool of workers in the future, creating new opportunities for economic growth but also raising the potential for persistent discrimination and inequality.

Futurework will outline these challenges in broad strokes. This executive summary is an introduction.

Skilled, Not Stuck

Our nation is enjoying high rates of productivity growth thanks in large measure to technological innovation. As that trend continues, it will lead to higher incomes and improved standards of living, helping more Americans meet the need for economic security.

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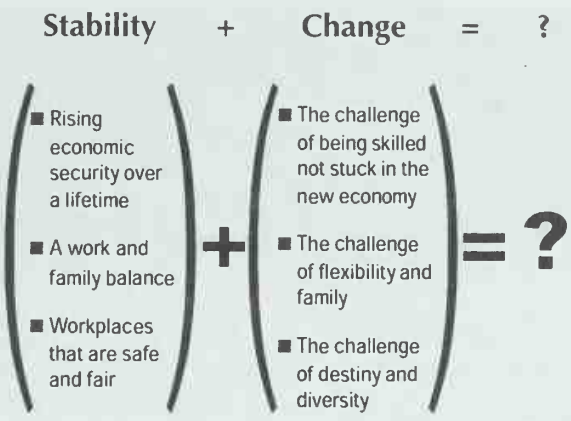

From 1992 through 2000, more than 19 million new jobs were created—a rate of growth more than twice that of the previous decade. High-technology industries account for one million of these new jobs. E-commerce generated $300 billion in revenues last year, approaching the size of the automobile industry.

Real average wages in the high-tech industries increased 19 percent since 1990, compared with a 5 percent average increase for the private sector as a whole. The average high-tech job pays 78 percent more than the average non–high-tech job—$53,000 compared to $30,000.

Even for those workers who do not sit in front of a computer or program a robot, more and better technology can mean higher productivity and higher wages.

Technology also has fundamentally changed work as we know it. For instance, assistive technology has opened new opportunities for people with disabilities. From large-screen monitors to voice-recognition software to alternative keyboards and telecommunications systems, technology is removing barriers for people with disabilities.

But technology combined with rising globalization is also presenting new challenges. As the number of high-paying jobs increases, well paid, low-skilled jobs are becoming harder to find. Globalization has made it easier for businesses to choose low-skilled workers at lower pay in other parts of the world. And technology has rendered many jobs obsolete here at home.

Who are the working poor?

More than 9 million working Americans were living in poverty in 1997, and one-quarter of those worked full-time, year round. Nearly 60 percent of the working poor are women—and minority women are more than twice as likely to be poor as white women. Almost 3 million poor workers were in families with children under age 6. Ten percent of people with significant disabilities working full-time fall below the poverty rate.

NEW ECONOMY, NEW CHALLENGE

All of these factors have contributed to rising inequality in the U.S. labor market. From the late 1970s through the mid-1990s, the gap in earnings between the top and bottom wage earners grew substantially.

Though the trend of rising inequality that we experienced for almost two decades finally began to reverse during the late 1990s, the current earnings gap remains much larger than it was 20 years ago. The top 10 percent of full-time workers now average almost $1200 per week in earnings while the bottom 10 percent average only $275. And according to the Bureau of Labor Statistics, the real earnings of men in the bottom group fell by 22 percent during this period.

Some middle-aged workers are losing the security they once had. During the first half of the 1990s, the job tenure of older male workers declined. Displaced workers with more education fared considerably better than their less-educated counterparts.

Workers who want to climb higher need skills and training.

SKILLS ARE THE TICKET

In the information-based, skills-intensive economy of the twenty-first century, one thing is clear: knowing means growing.

While many workers will continue to be in occupations that do not require a bachelor's degree, the best jobs will be those requiring education and training. In fact, the 20 occupations with the highest earnings all require at least a bachelor's degree. Throughout the economy, occupations that require a college degree are growing twice as fast as others.

In 1979, the average college graduate earned 38 percent more than the average high-school graduate. Today, it is 71 percent. Less-educated

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Ten occupations with the highest earnings

Physicians

Physicists and astronomers

Dentists

Engineering, natural science, and computer and information systems managers

Podiatrists

Optometrists

Aircraft pilots and flight engineers

Aerospace engineers

Lawyers

Petroleum engineers

workers of all racial groups—particularly men—are falling behind in earnings.

Real wages for men without post-secondary education have declined significantly over the past 20 years. Men with only a high-school degree have seen their wages fall by nearly one-fifth (from $679 per week to $559) while wages of men without a high-school diploma have fallen by nearly one-third (from $555 per week to $383) since 1979.

Two out of three high-school graduates will enter college this fall. But not everyone has the same opportunity. Fewer than 10 percent of adults with disabilities have graduated from college—a rate achieved by the general population 30 years ago. The percentage of adults with disabilities who have not completed high school is more than double that of adults without disabilities.

In 1997, for the first time ever, the high-school graduation rates for young African-Americans and whites were statistically on par at 86 percent and 88 percent, respectively. Asian-Americans have the highest high-school graduation rate—more than 90 percent. High-school completion rates were far lower—62 percent—for young Hispanics, the fastest growing segment of the population.

More African-Americans, whites, and Hispanics are attending college. However, African-Americans and Hispanics continue to lag behind in

Futurefacts:

weekly earnings by education

college attendance. This means that these minority groups lack access to many of the skills that higher education provides.

Skills include cognitive (hard) skills and communication (soft) skills as well as education credentials and job-related skills. In many instances, there is a mismatch between the skills jobs require and those that applicants possess. More than 20 percent of adults read at or below the fifth-grade level.

A 1996 American Management Association survey of mid-size and larger businesses found that 19 percent of the job applicants taking employer-administered tests lacked the math and reading skills necessary for the jobs for which they were applying. That percentage increased to almost 36 percent in 1998—probably reflecting tighter labor markets and the rapidly rising demand for skills.

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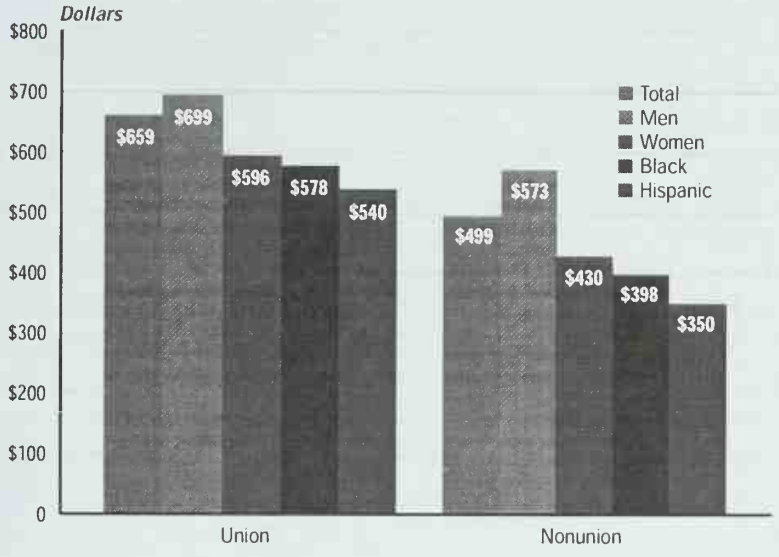
unions and higher wages



Usual weekly earnings for full-time workers

America does not face a worker shortage but a skills shortage. The challenge is to invest in the workers who are already participating in the workforce and to identify and tap into untapped labor pools.

PREPARED, NOT "JOBSOLETE"

Whether it is by empowering workers with cutting-edge high-tech skills, providing downsized workers with transition assistance, or helping young people get a foothold on the career ladder—our fundamental challenge is equipping all Americans with the tools to succeed in this new economy. We need to make sure no worker becomes "jobsolete."

The demand for skills is bringing about changes in the way some unions and employers engage in collective bargaining. Technology, and the skills needed to master it, are taking their rightful place on the negotiating table. In some industries, such as telecommunications, the issue is not job

security, but employment security and providing incumbent workers with education and training opportunities to gain the skills they need to stay ahead in the changing workplace.

Regardless of his or her skill level, it is essential to make work pay for every worker. No one who works full-time should live in poverty. Raising the minimum wage and expanding the Earned Income Tax Credit are two policies that have helped make work pay.

Collective bargaining historically also has played an important role. In 1998, unionized workers overall earned nearly one-third more than nonunion workers and were more likely to earn health and pension benefits. African-American union workers earned 45 percent more than nonunionized African-Americans. Unionized Hispanics made more than half again as much—54 percent—as their nonunion counterparts. Unionized workers typically have higher skill levels than nonunion workers, which also contributes to their higher wages. In addition, a 1997 study found that productivity in unionized firms with high-performance work practices was about 10 percent higher than in comparable nonunion firms.

Flexibility and Family

For the vast majority of working families, Ozzie and Harriet are demographic dinosaurs. For others, they were always a myth. Today, Harriet usually does not stay home. Nearly three out of four women with children are in the workforce. Often, neither Ozzie nor Harriet gets home by 5:00 p.m. The time that married women with children spend working outside the home nearly doubled in 30 years—translating into 22 fewer hours per week families can spend with their children.

Workers seeking to balance sufficient earnings with family time are stretched. They are searching for the time and flexibility to be there when the babysitter doesn't show, to make arrangements with the caregivers for their aging parents, to attend the parent-teacher conference or the doctor's appointment. And as we look to the future, the vital challenge of childcare and eldercare will grow.

In 1996, almost 20 percent of American households provided informal care to a relative or friend age 50 or older. Futurework finds that this percentage is estimated to more than double in the next five years.

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Futuretime

The real work day

5:30 a.m. get up, get dressed, exercise

6:30 a.m. make breakfast, school lunches, grocery list

7:30 a.m. get kids up, dressed, and fed

8:00 a.m. drop off kids and dry cleaning

9:00 a.m. on the job . . . 12 e-mail messages waiting for reply

1:30 p.m. meeting at daycare center (your child is biting!)

2:30 p.m. back on the job . . . 8 voicemails waiting

5:00 p.m. forward office calls to cell phone

5:30 p.m. pick up child from school aftercare

6:05 p.m. pick up other child, pay late pickup fee at day care

7:00 p.m. make dinner

8:00 p.m. do dishes, homework, laundry

8:30 p.m. bathe kids

9:00 p.m. read work memos to kids as bedtime story

9:30 p.m. fold laundry, fall asleep

Every day, more working parents are "buying time"—hiring others to perform household services like lawn care, childcare, and housekeeping. And it is not just the higher wage workers that are buying. A California agency lists a plumber, a pizza parlor manager, and a cashier among its clients for childcare and domestic help.

Combined with the responsibilities of childcare, these obligations add up. So do the costs to employers. Family caregiving costs the economy more than $11 billion in lost production each year. As baby boomers grow older, and life expectancy rises, more Americans will find themselves "sandwiched" caring at the same time for their children and their aging parents. While women in particular are affected by this phenomenon, they are by no means alone in the "sandwich generation."

In the twenty-first century workforce and workplace, there will be no such thing as "women's issues." As Futurework shows, these are working-family issues. Men and women will share equally in the challenges of

Futureoffice

In a recent survey, more than 100 engineers were asked to describe—using current technology—the workplace of the future. Their predictions:

- ergonomic keyboards and voice-activated data input/retrieval
- more working from home using teleconferencing and e-mail
- more fingertip control and less brute force
- healthier workplaces friendlier to the environment

managing family and work time. This new mind-set will dramatically affect the way we work and the way we view work in the twenty-first century.

TECHNOLOGY: THE VIRTUAL OFFICE NEVER CLOSES

The good news is that technology is allowing workers to take the office everywhere. That's the bad news, too. With e-mail, pagers, laptop computers, and mobile phones, work is no longer confined to one setting; it is pervasive. The virtual office never closes, opening the potential for abuse if employers require homework above and beyond the normal working hours. We need to make sure that workers use technology—not the other way around.

Technology can give workers flexibility, but access presents another big challenge.

The home office is becoming more commonplace. Half of all homes had a personal computer in 1999. But even though the Internet can be accessed anywhere, not all Americans have equal access to the Internet. As information technology expands, the information divide continues to widen.

A July 1999 Commerce Department report found that between 1997 and 1998, the gap in Internet access between those at the highest and lowest income levels grew by 29 percent. Whites are more likely to have access from home than are African-Americans or Hispanics from any location.

As technology continues to spread, questions emerge: What are we losing as a society? What is the effect on social relations? Work, after all, is more than just a job or paycheck. It is where we meet friends, share ideas, and build a common sense of purpose and a social network. With voicemail, e-mail, and computer networks, how do we preserve the human network

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Futuretemps

From Kelly girl to Kelly chemist

In 1946, Russell Kelly began a business that became Kelly Girls Services, Inc. Nearly 100 percent of its revenues came from placing secretaries and clericals in temporary jobs. Today, as Kelly Services, Inc., the firm comprises a range of temporary help and specialized leasing and contracting companies in 19 countries. In 1998, roughly 20 percent of its revenue was generated by professional and technical placements including biologists, lawyers, accountants, chemists, and computer analysts.

and the social interaction that work has helped to facilitate? What takes their place?

"JUST IN TIME" WORKERS

Workers want a greater ability to care for their families. Employers want greater flexibility to compete in the global market.

One result is that the traditional work arrangement—a full-time, year-round job where an employer usually provides a worker with benefits, training, and/or a pension upon retirement—is often giving way to something fundamentally different.

In addition to the traditional way of modifying a schedule through part-time work, Futurework finds that millions of workers are in alternative arrangements that don't fit the traditional model. The age of "just in time" production has given rise to "just in time" workers—employees whom a business can hire on a moment's notice to fill a moment's need.

Roughly 1 in 10 workers fits into an alternative arrangement. Nearly 4 out of 5 employers use some form of nontraditional staffing arrangement.

America's alternative workers number 13 million and are a mixed group. The majority (8.5 million) are independent contractors. A growing number (1.3 million) are agency temporary workers. The number of agency temps increased by 10 percent from 1995 to 1997, considerably faster than the 2.8 percent growth in traditional employment.

For many employers, these arrangements make sense. They can be less costly and heighten employers' ability to respond to market forces. Workers, too, may be attracted to the mobility and choice associated with nontraditional jobs. In some cases, these arrangements may provide the

Futurejobs:
alternative work arrangements

flexibility they need to juggle work and family obligations. For example, slightly more than half of women independent contractors combined their working arrangement with their work at home raising children. Roughly one in four independent contractors worked part-time compared to one in five traditional workers.

Full-time, independent contractors earned more than average traditional workers, but agency temp workers earned less. Agency temps' average weekly earnings ($329) are the lowest of all nontraditional workers' earnings and are two-thirds of traditional workers' average earnings ($510). In addition to earning less, temp-agency workers are more likely to be young, female, and minority.

While alternative working arrangements can help those who choose a nontraditional form of employment, a majority are not in these arrangements by choice. In fact, 59 percent of agency temps would prefer a traditional job. In addition, many temps who work part-time would prefer to work full-time but are not offered that option.

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Futuretech

From e-mail to v-mail

As technology enables workers to decentralize their work, "clocking in and out" may become a thing of the past. Workers may rarely be in the office, and work hours may no longer be from 9 to 5. Some *Futuretech* products:

v-mail	image and sound on a wireless computer screen accessible anywhere
v-phone	real-time images along with audio
satellite conferencing	with participants from various locations worldwide
"drop in" offices	for face-to-face meetings and chatter around the water cooler

EMPOWERING WORKERS WITH CHOICE

In the twenty-first century, the most successful workers will be those who are able to choose the employment relationship that gives them sufficient wages and benefits and the ability to care for their families. The challenge will come in ensuring that future workers who prefer nontraditional options have on-the-job protections. Today, many do not.

Today's nontraditional workers receive less training and fewer benefits. Only seven percent of agency temp workers receive employer-provided healthcare benefits, and just one in ten is eligible for an employer-sponsored pension plan. Nontraditional work arrangements can raise practical and legal questions about the statutory protections available to workers. Workers may be unsure of their rights, and firms may be unsure of their obligations. Government agencies, in turn, will need to understand the nature of a work arrangement before deciding how best to enforce a particular law.

Ensuring access to benefits for nontraditional workers without causing employers to drop coverage for traditional employees may present another challenge. And providing traditional jobs for those nontraditional workers who want them may be the hardest task of all.

The goal is to create a balance between the need to furnish workers with fair wages and benefits and the ability to care for their families and the need to provide employers the flexibility they need to be competitive in the global economy.

Destiny and Diversity

In the new century, nearly one out of two Americans will be a member of what today is considered a minority group. America will be many faces and many races with no one majority group in the workforce. The question is not whether there will be change but how we manage that change so that all may benefit. It is not so much a choice as a challenge.

We live in a uniquely multiracial, multiethnic society—and it is becoming more so every day. We find our roots in every corner of the globe—and in every existing and potential market throughout the world. Capitalizing on America's diversity will give employers a competitive advantage. We speak every language. We know every culture. And capitalizing on our diversity and immigration trends will position us to compete and win everywhere from the global marketplace to the corner market.

America's workforce of the future will include more people of color, older Americans, women, and people with disabilities. The availability of larger pools of workers creates the opportunity to maintain economic growth by tapping new human capital resources.

CLOSING THE GAPS

The narrowing of gaps in society shows that we are already making some of the right choices about expanding opportunity for all Americans. Wage gaps between the sexes and across racial groups, for example, have narrowed. As more women enter the labor market and spend longer hours there, the pay gap between men and women has lessened—shrinking by more than one-third in the past twenty years. African-Americans have also made progress, albeit over a longer time period. In 1940, the average African-American man earned only 40 cents for every $1 earned by a white man. Today, it's 76 cents.

These gaps are declining for a number of reasons. Women are spending more time in the workforce and gaining work experience. Both women and people of color are gaining greater skills and attaining higher education levels as more opportunities have been made available. And we have translated our national promise of civil rights into the daily practice of effective antidiscrimination initiatives and affirmative efforts to include everyone in the workplace. But, of course, barriers remain.

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Workers with disabilities

Workers with disabilities are more likely to have two jobs; work part-time because they cannot find full-time employment; be self-employed; earn less from their own incorporated businesses; and earn less per hour, per month, and per year.

NOT THERE YET

While the wage gap has diminished, it hasn't disappeared. Women and minorities continue to earn less than their white male counterparts. The earnings of African-American and Hispanic women are only 65 and 55 percent, respectively, of white men's average earnings.

White women earn about 75 cents for every dollar earned by white men. About 40 percent of that pay gap can't be explained by differences in experiences, skills, or the jobs held by men and women. It appears to be largely the product of stubborn discrimination.

Barriers not only affect wages in the workforce, but also the path to becoming a part of it. Even in this booming economy, people are being left behind.

The unemployment rates for African-Americans and Hispanics have declined to historic low levels in the past two years. But the unemployment rate of African-American men is still twice that of white men. For African-American teens, unemployment has fallen dramatically over the past 6 years but remains around 25 percent or higher. Three out of four working-age people with disabilities who want to work are not working. And half of the total Native American workforce is unemployed.

The demands of the future will require increased efforts to include these workers who have been left behind and have not shared in the general prosperity. They will also require successfully integrating millions of immigrants into the workplace.

TAPPING AMERICA'S POTENTIAL

As we enter the twenty-first century, it is increasingly clear that tapping into the talents of all of America's available workers isn't just good values, it's good business. As our population becomes more diverse and global competition expands, employers can't afford to underutilize any segment of the

Futuretalk

"web"sters dictionary

browser	Web page
hyperlink	e-mail
surfing	search engine
digital	Web site
Internet	e-tailing
URL	server
dot	WWW
JAVA	HTML
Webcasting	SMTP
e-commerce	XML
link	

*Check *Futurework*'s glossary for definitions

American talent pool. Moreover, people who are ready to work today are consumers who are ready to buy tomorrow. There are billions of dollars in unmet demand in left out urban and rural areas.

Our nation is in the midst of a period of historic economic progress. The key to continued growth without inflation is in making sure that every American can share in that prosperity. From central cities to rural areas to suburbs to Native American communities—the better more of us do, the better all of us do.

Our diversity is our destiny. Recognizing and capitalizing on that reality may be one of our greatest challenges. But it's also our greatest opportunity.

What Does the Future Hold?

We know that workers need rising living standards over their lifetimes, a balance between the demands of work and family, and workplaces that are safe and fair. We also know that major trends will sweep across and

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Ten facts affecting *Futurework*

1. Baby boomers make up almost half (47%) of the workforce today.
2. Young women are enrolling in college at a higher rate (70%) than young men (64%).
3. Young people hold an average of nine jobs before age 32.
4. Employed mothers with children under age 13 miss an average of 6.4 workdays a year due to family-related issues.
5. From 1969 to 1996, families, on average, experienced a decrease of 22 hours a week (or 14 percent) of available parental time to spend with their children.
6. Small businesses employ about half of the nation's private sector workforce.
7. E-commerce revenue for 1998 was estimated at $300 billion—almost the size of the U.S. auto industry.
8. In five years, almost half of all workers will be employed in industries that produce or are intensive users of information technology.
9. With more than 1,600 corporate training institutions already established, the number of "corporate universities" could surpass the number of traditional universities by the year 2010.
10. American workers get only seven hours of sleep every night . . . 365 hours a year less than recommended. One in three adults says his or her work has been affected by feeling drowsy on the job.

radically change the landscape of workplaces and the makeup of the workforce in the twenty-first century. Futurework details the extraordinary diversification of the workforce, the explosive growth of technology, and the pervasive impact of growing globalization. How will future workers strive for and attain economic security, work-family balance, and safe and fair workplaces?

Futurework does not try to provide all the answers. Instead, it presents the trends, examines their combined implications, and asks the questions that we expect will help shape the debate over labor policy for the twenty-first century. Here are some of them:

How do we ensure that workers get the skills they need to succeed in the twenty-first century workplace? Will employers hire and train workers who initially lack skills? What happens to the worker laid off from a manufacturing job at age 55—does he get training in new technologies or is he stuck

in lower-wage jobs like groundskeeper, security guard, and warehouse stock clerk? How do we make sure that people with disabilities have access to the technologies that facilitate their participation in the workplace? How will e-commerce impact employment?

How can workers find the time they need for their families, while at the same time ensuring that employers can get the job done? How do we ensure that those with lower educational levels are not left behind by the digital economy? Will temporary and other nontraditional workers be relegated to permanent second-class status, or will temps become more like independent contractors and leverage higher compensation? Will workers increasingly rely on the collective bargaining process to provide higher wages and better benefits?

Will we manage the change in the workforce to society's advantage? Will global competition lift standards for people working and living throughout the world? Will businesses invest in workers who have been left behind to ensure the nation's continued prosperity? Will we bring down the barriers to success for all Americans?

The answers to these and similar questions will help map the landscape of the future of work. For future workers, employers, labor unions, and policymakers, preserving the constants for working families is the goal, and managing change effectively is the challenge. Together, we can proceed with confidence.

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1 The Workforce

To set the stage for understanding what work, workers, and workplaces will be like in twenty-first–century America, we need first to appreciate the demographic, educational, and employment changes that have shaped the American workforce of today.

... what is past is prologue.

William Shakespeare, *The Tempest.*

The U.S. Population Is Becoming Larger and More Diverse

Who are the workers of the future? Many of them will be older versions of us. In fact, over half of the population of 2030 are alive today.

Over the next fifty years, the population of the United States is expected to grow by nearly 50 percent, from about 275 million in the year 2000 to an estimated 394 million people in 2050. U.S. population growth is influenced by immigration and emigration rates, as well as by birth and death rates. Immigration will play the largest role in the growth of the United States through mid-century.[1]

Immigration trends tell us to expect 820,000 immigrants to arrive annually in the United States. Two out of three will be working age upon their arrival. By 2050, we expect immigration to have increased the U.S. population by 80 million people. Fully two-thirds of the projected U.S. population increase will be due to net immigration.[2]

In addition to immigration, the other key determinants of the U.S. population size will be birth and death rates. Particularly important to the American labor force is the large number of people born after World War II, from 1946 to 1964. This baby-boom generation—which has been a major force in the labor market for the past 20 years—has now reached its prime working years and makes up about 47 percent of the workforce.[3] The youngest baby boomers, just reaching 35 years of age, will continue to participate in the workforce for many years. As this population ages, the median age of the workforce will rise.

Between 2011 and 2029, the baby boomers will be reaching the traditional retirement age of 65. Their retirements will dramatically affect the workforce of the future. Not only will the demographic profile of the workforce change considerably, including a rise in the number of people with disabilities, but millions of Americans will be faced with balancing work and family, particularly the care of elderly parents. (See chapter 3 for a fuller discussion.)

Despite the fact that the post–baby-boom generation (born after 1964) is much smaller in size, the number of youths is expected to rise by 2020, partly as a result of immigration. In 2000, there will likely be over 70 million children under 17 years of age. By 2050, this under-17 population is expected to rise to over 96 million.

The other key component of population change is the death rate. Over the next 50 years, the number of deaths annually is likely to increase nearly 50 percent.[4] In just 30 years, baby boomers—now 30 percent of the population—are projected to drop to only 16 percent.[5] Nevertheless, the oldest age groups are projected to increase their share of the population through the middle of the next century. In 1995, 33.5 million people were age 65 or older; and, by 2050, the elderly population is expected to more than double, representing 20 percent of the population.[6]

Life expectancy is projected to rise from 76 years in 1995 to 82 years in 2050.[7] Even those already 65 years old have life expectancies of an additional 15 to 20 years. Because all of the increase in older Americans after 2030 can be attributed to increases in the number of people 75 years and older, there may be little direct effect on the composition of the workforce, although the impacts on families, jobs, and the marketplace (such as demand for medical services) will likely be significant.[8]

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THE CHANGING FACE OF THE WORKFORCE

Masked in these total population changes are the details of race and ethnicity. Immigration trends, coupled with varied birth rates, will bring more diversity to the American workforce. In 1995, the United States was estimated to be 83 percent white; 13 percent black; 1 percent American Indian, Eskimo, and Aleut; and 4 percent Asian and Pacific Islander.[9] Ten percent of Americans, mostly blacks and whites, were also of Hispanic origin. Nearly one in eleven Americans was foreign born.[10]

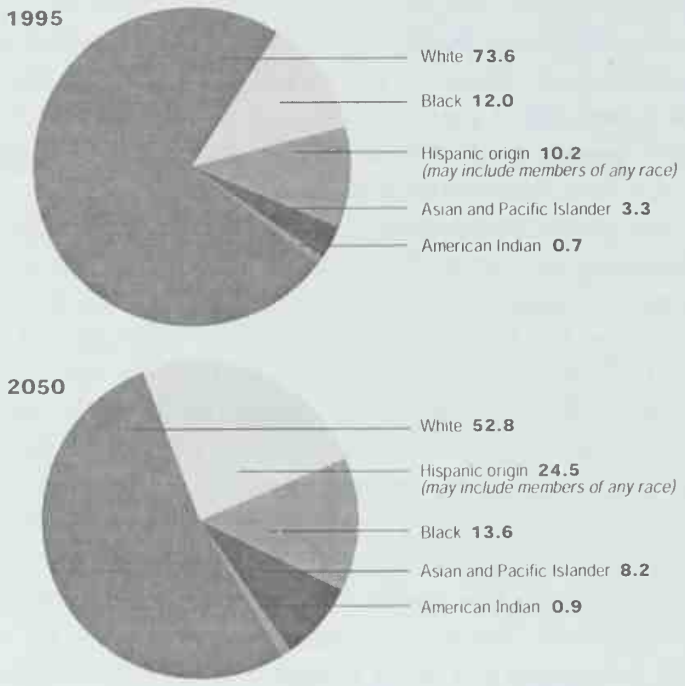
Chart 1.1 shows an alternative view of the U.S. population distribution: although Hispanics are typically white or black, they are shown here as a separate category, independent of racial background. Looked at either way, the data show that the future racial and ethnic makeup of America will be considerably different than it is today. Trends show that whites will be a declining share of the future total population, while the Hispanic share will grow faster than that of non-Hispanic blacks. By 2050, minorities are projected to rise from one in every four Americans to almost one in every two. The Asian and Pacific Islander population is also expected to increase. Growth rates of both the Hispanic-origin and the Asian and Pacific Islander populations may exceed two percent per year until 2030. Even at the peak of the baby-boom era, the total population never grew by two percent a year. By 2010, Hispanics are likely to become the largest minority group. In fact, after 2020, the Hispanic population is projected to add more people to the United States every year than will all other groups combined.[11]

Educational Attainment Is Rising

Deciding how far to go in school is one of the most important decisions an American worker makes, regardless of his or her race or ethnicity. Educational attainment plays a critical role in virtually every labor-market outcome. On average, the more education people have, the more likely they are to seek and find jobs, earn higher wages, and retire with a pension. (See Chapter 2 for a discussion on earnings.)

Nearly 83 percent of all adults ages 25 and over have completed high school, and 24 percent have obtained a bachelor's degree or more. This is a

CHART 1.1 **Percent distribution of the population by race* and Hispanic origin, 1995 and 2050**



*Racial categories exclude those of Hispanic origin

SOURCE: *Bureau of the Census*

dramatic increase from just 30 years ago, when fewer than 54 percent of this group had completed high school and fewer than 10 percent had completed college.[12] And as the younger populations age, the average educational attainment of the population will continue to rise. Eighty-seven percent of young adults, 25 to 29 years old, completed high school in 1997.

Though educational attainment is universally rising, levels vary considerably across racial and ethnic lines. Looking at 1997 data on young adults, Asian-Americans have the highest high-school graduation rates at over 90 percent. For the first time, in 1997, the high-school graduation rates for young blacks and whites were statistically on par at 86 and 88 percent respectively. High-school completion rates that year, however, were far

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lower—62 percent—for young Hispanics. Particularly troubling is that over the decade, there has been no significant change in the rate of high-school completion for young Hispanics.

The lower educational attainment rates for Hispanics are, in part, due to lower high-school completion rates by Hispanics who immigrated to the United States. High-school completion among all foreign born is considerably lower than among the native born—65 percent versus 84 percent. For example, the proportion of foreign-born Hispanics with less than a high-school diploma was almost twice as high as that of native-born Hispanics—57 percent compared with 31 percent.[13]

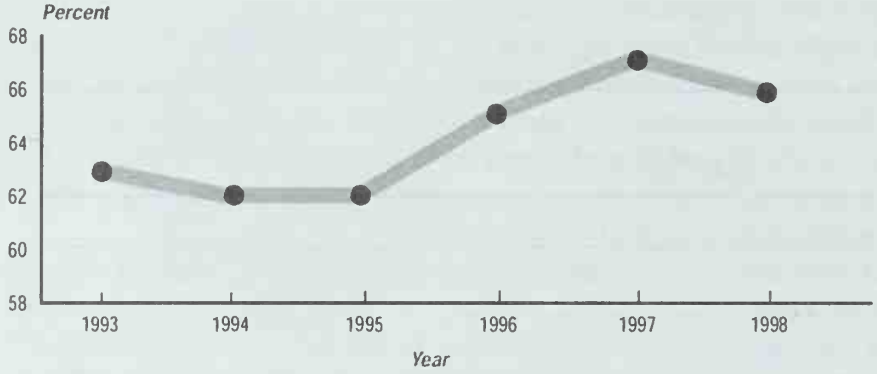
Not only are more Americans graduating from high school, but more are going to college. (See Chart 1.2.) Sixty-six percent of 1998 high-school graduates entered colleges or universities in the fall. This proportion has risen over the last two years, after remaining steady from 1992 to 1995 at about 62 percent. This trend is expected to continue as the rewards to those with more schooling continue to rise and attract more young people to college. (See chapter 2 for more details.)

Nearly two-thirds of the new college students were enrolled in four-year institutions, while the rest attended two-year colleges. Young women enrolled in college at higher rates than young men—69 percent and 62 percent, respectively—a trend likely to help close the gap between women's and men's average earnings. Although blacks and whites graduated from high school at roughly equal rates, at the end of the century, blacks continued to lag behind in both enrollment in and graduation from college. Nearly seven out of ten young white high-school graduates went on to college compared to only six of ten young black high-school graduates and five out of ten young Hispanic graduates.[14] Of those 25 and over, just 13 percent of blacks and 11 percent of Hispanics were college graduates in 1997, compared to 25 percent of whites and 42 percent of Asian and Pacific Islanders.[15]

The gap between the education levels of people with disabilities and those without is particularly troubling. The percent of adults with disabilities who have not completed high school is more than double that of adults with no disabilities. And fewer than 10 percent of adults with disabilities have graduated from college,[16] a rate achieved by the general population 30 years ago.

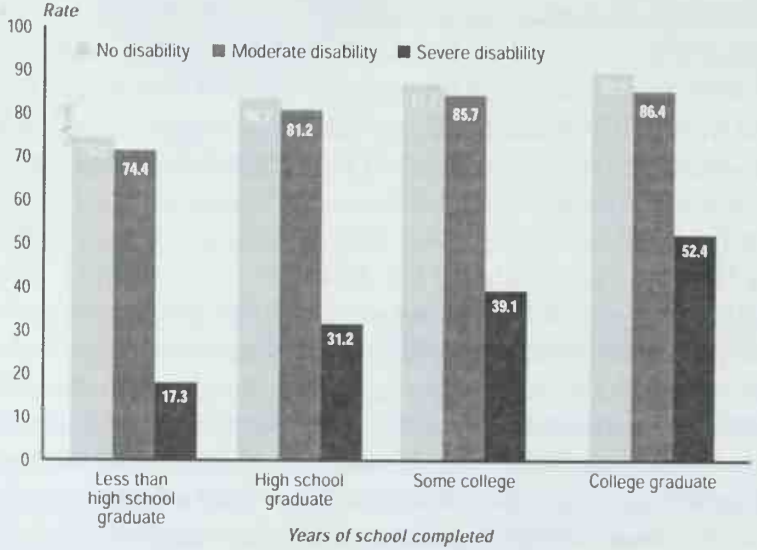
Nevertheless, the situation is improving. Laws and policies requiring equal access for people with disabilities, coupled with advances in assistive technologies, should soon result in rising rates of educational attainment

CHART 1.2 **Percent of high-school graduates enrolling in college, 1993–1998**



SOURCE: BLS, *Current Population Survey*

CHART 1.3 **Labor force activity rate of persons 20 to 64 years old, by education level and disability status, 1994 *(in percent)***



SOURCE: Thomas W. Hale, Howard V. Hayghe and John M. McNeil. "Labor Market Activity, 1994." *Monthly Labor Review*, September 1998, using *Survey of Income and Program Participation* data from the Bureau of Census.

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for people with disabilities. Additional education not only improves the chances of labor-market activity for workers with disabilities but reduces the gap in labor-market participation between people with severe or significant disabilities and those with no disabilities. (See Chart 1.3.)

Educational attainment has a significant impact on earnings levels throughout a worker's life. Differences in educational attainment across these groups, among other factors, will cause the wage and pension gaps among these groups to persist.

Women Are Working More; Men Are Working Less

Clearly, the level of labor-force participation is an important determinant of earnings. A worker who puts in more hours and weeks of work generally receives higher total earnings. In 1997, 78 percent of all employed persons usually worked full-time (35 hours or more a week), a proportion little changed since the early 1970s. In contrast to the stability over time in average weekly hours worked, there has been a noticeable trend toward more year-round work. During 1997, 72 percent of people with any work experience worked year round (at least 50 weeks), compared with just 65 percent thirty years earlier. (See Table 1.1.)[17]

TABLE 1.1 **Work experience of the population, by extent of employment, 1997 *(in percent)***

Extent of employment	Total	Men	Women
Total who worked during the year	100.0	100.0	100.0
Full time	79.0	86.4	70.7
50–52 weeks	64.2	71.7	55.8
48–49 weeks	1.6	1.7	1.4
40–47 weeks	3.9	3.9	4.0
Part time	21.0	13.6	29.3
50–52 weeks	9.6	5.6	14.2
48–49 weeks	0.6	0.4	0.8
40–47 weeks	1.9	1.2	2.6

SOURCE: BLS, *Current Population Survey*

This trend toward year-round work primarily reflects the increasing likelihood of employed women working year-round. Since 1967, the percentage of women participating in the labor force has increased by nearly half, from 41 percent to 60 percent, and the proportion of employed women working year round has climbed by 18 percentage points, from 52 to 70 percent. During the same period, the labor-force participation rate of men has actually declined, from 80 percent to 75 percent, and the proportion of employed men working year-round rose only slightly, from 74 to 77 percent.[18]

Full-time year-round work varies considerably by age. Over the past few decades, more prime-age workers (25 to 54 years of age) were working full-time year-round, rising from 52 percent to 63 percent. In contrast, full-time year-round participation of the young is dropping as they stay in school longer. In the future, we can continue to expect the young to reduce their labor-force participation as the need for additional education rises. However, a decline of older workers' participation has begun to reverse with the economic expansion and will likely continue as long as good employment opportunities remain plentiful. Rising trends in full-time and year-round status are likely to continue.[19]

Employment rates differ significantly between men and women, and those differences will likely continue into the future. While women's employment rates are rising and men's rates are declining, women are expected to continue to leave the labor market periodically to assume the lead role in child rearing. Since 1950, the proportion of men in the labor force has declined from 86 percent to 75 percent. In contrast, the trend for women is on the rise. In 1950, one-third of women worked outside the home. Almost fifty years later, 60 percent of women are in the labor force.[20]

Women are increasingly working prior to having children and returning to the workforce while their children are still preschool age. This is particularly likely for families maintained by single women, a group that is growing significantly. In 1975, 16 percent of mothers with children under six years of age did not have a spouse in the household; by 1998, this figure was 26 percent.[21]

From Welfare to Work

More women have turned to the labor force for income since welfare reform policies established time limits on public assistance. Welfare caseloads have dropped by a record 6.5 million people since 1993, falling by half or

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Box 1.1

Moving people from welfare to work

In 1996, the federal government enacted legislation ending the federal entitlement to assistance for eligible needy families with children and created the Temporary Assistance for Needy Families (TANF) block grant. Since families receiving this benefit have a five-year lifetime limit for federal assistance, there is a great deal of concern about their future employment prospects. To address this concern, the Balanced Budget Act of 1997 authorized the Department of Labor to create a $3 billion Welfare-to-Work grants program for states and local communities. These grants assist long-term welfare recipients and certain low-income noncustodial parents in high poverty areas to get jobs and succeed in the workforce. This program is particularly important because the individuals remaining on the welfare rolls face particular challenges.

Welfare recipients are a diverse group. About half of all adults on welfare have at least a high-school diploma, about half are less than 25 years old, and over half (56 percent) are white. A majority have only one child, and 56 percent have never been married. Many experience poor health or depression, almost half have no car, and 15 percent suffer from domestic violence. Ten to 15 percent have disabilities that limit employment. However, welfare recipients do face some common barriers to finding work—the majority have limited job skills to offer employers.

Low-income noncustodial fathers are of a particular concern as they often live on the margins of society and cannot support their families. Forty-three percent are high-school dropouts. Twenty-nine percent are unemployed or not in the labor force. Less than one-third work on a full-time, year-round basis. Many low-income, noncustodial fathers live in central cities that are distant both physically and psychologically from the growing job opportunities in the suburbs. At least three-fourths of these fathers have been arrested or have ongoing legal problems. Research indicates that once a young man has been incarcerated, his employment and earnings are substantially reduced for many years to come. Additionally, many noncustodial fathers lack access to social networks that can be critical in locating employment. A large proportion of jobs is filled by informal recruitment among employers who seek referrals from their current employees and other acquaintances.* The poor labor-market prospects of these low-income noncustodial fathers affect their families and neighborhoods.

A recent review of state welfare programs by the U.S. General Accounting Office (GAO) found that between 61 and 87 percent of adults leaving welfare had held jobs at some point. The lower figure includes those families who had returned to welfare; the higher figure is only out of a sample of families who stayed off welfare. Work, coupled with postemployment training and support services such as mentoring, childcare, and transportation, has proven to be effective in assisting individuals to move from welfare to self sufficiency. However, many of these jobs were short in duration and most were low-paying. The GAO study found that many families (between 18 and 30 percent) returned to welfare.

**Excerpted from the testimony of Raymond J. Uhalde, Deputy Assistant Secretary of Labor for Employment and Training, before the House Subcommittee on Human Resources, April 27,1999.*

more in 29 states and nearly half (46 percent) nationwide. The rolls have declined by 4.6 million people, or 38 percent, since the welfare reform law was signed in August 1996. The percentage of welfare recipients working has tripled since 1992, and all states met the first overall work participation rates required under the welfare reform law. Companies in the Welfare-to-Work Partnership have hired over 410,000 welfare recipients; and the federal government has hired nearly 12,000, exceeding its goal of 10,000 set two years earlier.[22]

Workers with Disabilities Are an Underutilized Resource

An additional challenge is raising the labor-market activity of people with disabilities. Given their lower educational attainment rates, among other factors, persons with significant disabilities report lower rates of labor-market activity. Among labor-market participants, persons with disabilities—moderate or significant—were more likely than those with no disabilities to report that they were looking for work or were on layoff rather than working. Persons with moderate disabilities were nearly twice as likely to be looking for work or on layoff as people with no disabilities, and those with severe disabilities were nearly three times as likely. Of persons 20 to 64 years old with severe disabilities, approximately 30 percent either worked, looked for a job, or were on layoff during the last four months of 1994—a stark contrast to the rates of 82 percent and 85 percent respectively for those with moderate or no disabilities. Education made some difference. Nevertheless, among workers with college degrees, only 52 percent of those with severe disabilities reported labor-market activity compared to 90 percent of those with no disability—a gap of 38 percentage points.[23]

Veterans Enrich the Civilian Workforce

In 1998, the civilian veteran population totaled over 25 million. Over 15 million of these veterans are in the civilian workforce.[24] They bring a host of skills into the workplace. Those who performed high-tech tasks in the military can transfer their skills to civilian jobs that use the same type of technology. Many possess skills that can be applied in the fields of information technology, engineering, and communications. For example,

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Box 1.2

Did you know that workers with disabilities . . .

Are more likely to have two jobs?

Are more likely to work part-time and, are more likely to work part-time because they cannot find full-time work?

Are more likely to be self-employed?

Are more likely to earn less from their own incorporated businesses?

Are more likely to earn less per hour, per month, and per year?

Are less likely to belong to a union?

Are less likely to work in one of the white-collar occupational groups (managerial, professional, technical, sales, and clerical)?

Constitute an underutilized workforce and a potential resource to the U.S. economy? If one million more of the 54 million Americans with disabilities were employed, it is projected that the nation would save $286 million annually in food stamp use and $1.8 billion annually in social security income benefits.

SOURCE: Douglas Kruse, *Employment and Disability: Characteristics of Employed and Nonemployed People with Disabilities,* Rutgers University, 1997.

there were many technological advances underlying the success of the United States in the 1990s Kosovo conflict. Many of those who served in the Kosovo conflict and returned to civilian life were armed with the knowledge that drove that technology. They offered employers abundant resources.

In general, the adaptability of veterans' skills is evidenced by the fact that veterans overall have a lower unemployment rate than nonveterans. However, not all veterans have an easy time making the transition to the civilian workforce: females, minorities, and those with disabilities have disproportionately higher unemployment rates. These veterans face the same barriers to full employment as their civilian counterparts.

Young People Are Already a Substantial Part of the Labor Force

Employment trends among youth—the workers of the future—are of particular interest. Since young people will be a significant part of the population

Box 1.3

Postsecondary education and other training

Programs are available to increase the educational attainment of our workforce and improve training opportunities for those who choose not to go to college.

Hope Scholarships: Provide tax credits of up to $1,500 for tuition and fees for students in the first two years of college or other eligible postsecondary training programs.

Lifetime Learning Credit: Provides a 20 percent credit for the first $5,000 ($10,000 beginning in 2003) of tuition and fees each year to students beyond the first two years of college or those taking classes part time to upgrade their job skills.

Learning Anytime, Anywhere Partnerships: Provide grants to partnerships of two or more independent organizations to ensure that high-quality learning opportunities are available to distance education students.

Montgomery G.I. Bill—Active Duty and Selected Reservists: Provides education benefits to veterans and reservists for degree and certificate programs, flight training, apprenticeship or on-the-job training, correspondence courses, and other training.

Pell Grants: Provide assistance to low- and middle-income undergraduate students.

Student Loans: Provide guarantees of commercial loans under the Federal Family Education Loan Program, and direct loans to schools and students under the Direct Loan Program.

Vocational Rehabilitation Act: Provides grants to enable states to provide vocational rehabilitation services to persons with disabilities.

Veterans Educational Assistance Program: Provides benefits for degree and certificate programs and other training.

Workforce Investment Act of 1998: Provides workers with the information, job search assistance, education, training, and support they need to get and keep good jobs; and provides employers with skilled workers.

SOURCE: *21st Century Skills for 21st Century Jobs,* U.S. Department of Commerce, U.S. Department of Education, U.S. Department of Labor, National Institute for Literacy, and Small Business Administration, January 1999.

in the years ahead, their attachment to the workforce will be particularly important. More than a third of 14- to 16-year-olds who were enrolled in school also worked at an "employee" job (defined as having an ongoing relationship with a particular employer) at some point while school was in session during 1996.[25] Even at these young ages, many of these student

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workers had a fairly strong attachment to the formal labor market: most worked while school was in session as well as during the summer.[26] The typical young person held an average of nearly nine jobs between the ages of 18 and 32, with more than half of the job changes occurring before age 23.[27]

While the actual number of young people in the labor market will likely increase as the population increases, at least two pressures will counter a large rise. First, an increasing number of school districts are considering year-round programs, which may keep young people out of the labor market. Second, the premium on education will cause young people to stay in school longer and delay their move into the labor market. On the other hand, the government's School-to-Work initiative may increase opportunities for youth to work while learning.

Later chapters will show how skills attainment is critical to success in the future workplace. Yet of youth 16 to 24 years old, 15 million are out of school and are not pursuing additional education.

Nearly 70 percent of them have no more than a high-school diploma.[28] Consequently, they face a lifetime disadvantage in the workforce. These 10 million youths with a high-school diploma or less are the focus of the government's Youth Opportunity (YO) Movement. These young people form a major source of human capital in the new century. YO is building a national partnership with the private sector to invest in these young people, unlocking their talents and helping ensure the long-term success of our future workforce. (See Box 1.4.)

The Future

Change has been a constant in the demographic landscape of the United States. The next 50 years will be no exception. The population will increase by 50 percent, and minority groups will make up nearly half the population. Certain populations will experience particularly large increases, including Hispanics, Asians, immigrants, and people with disabilities.

The workforce will also grow and mirror the increasing diversity of America. Women's employment rates are rising, while those of men are declining somewhat. Increasing numbers of persons with disabilities are entering the workforce, although this labor pool is still largely untapped. The face of the workforce will continue to change, reflecting the changing features of the U.S. population.

Box 1.4

Investing in our future

Among those with a high risk of being left out are 15 million youths between 16 and 24 who are not in school.* Seventy percent of them have a high-school diploma or less, and five million live in distressed communities. These young people form a major source of human capital for the next century. We cannot afford to leave this source untapped. That is why the Department of Labor is building a national partnership with the private sector—the Youth Opportunity Movement—to invest in young people. Unlocking the talents of youth is good public policy. It is good business. And it is vital to tapping into new markets throughout the United States.

The Youth Opportunity Movement began with a four-year federal investment of over $1 billion. These funds will be used to leverage a much larger private investment in community programs to train young people. Employers will benefit from a prepared, skilled workforce to tackle the jobs of today and a larger base of consumers for their products tomorrow.

The Youth Opportunity Movement offers a way to bridge gaps and break cycles that lead to poverty and despair. In conjunction with the recently enacted Workforce Investment Act, the Department of Labor awards Youth Opportunity grants to qualifying communities. This funding enables communities to establish "one-stop" service centers, where youth can access a wide range of services and resources, and to form community-wide partnerships.

Effective strategies to help out-of-school youth find employment must address personal, societal, academic, and professional challenges. Job training alone is not enough: while young people need "hard" career-oriented skills, such as computer training, they also need "soft" skills, such as learning how to interview for a job. While various programs have succeeded in treating parts of the problem, the Youth Opportunity Movement will apply a "360 degree approach" by focusing on the whole person and engaging the whole community.

*U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings,* November 1998, Table A-16.

The educational attainment of the American workforce is rising in time to meet the serious demands of the new century's highly technical, highly changeable job market. At the end of the 20th century, more than 4 out of 5 Americans ages 25 and older had completed high school, and nearly a quarter had a bachelor's degree or higher—dramatic increases from 30 years ago. Americans are recognizing that education and skills will play an ever–more-critical role in their labor-market success—finding jobs, earning higher wages, weathering change, and retiring with a pension.

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2 Employment, Wages, and Benefits

American workers enjoyed the benefits of both strong job growth and rising wages during the 1990s. Wage inequality began to decrease and real wages began to rise during the late 1990s, following two decades of increasing wage inequality and stagnating average wages.

Employment Has Been Growing Robustly

Employment experienced unprecedented growth during the 1990s—adding 19 million net new jobs in the last 6 years of the decade. As a result of this growth, the unemployment rate during 1999 fell as low as 4.2 percent, the lowest rate in 29 years. This strong growth will continue into the current decade, according to projections by the Department of Labor's Bureau of Labor Statistics (BLS).[1]

GROWTH IS RESUMING FOR STAGNANT WAGES AND BENEFITS

Since the end of World War II, real wages for production workers have risen by more than half. Most of this growth occurred, however, in the 1950s and 1960s. (See Chart 2.1.) After reaching a peak in 1973, real hourly earnings for production workers either fell or stagnated for two decades. During 1996–1998, growth in hourly earnings resumed, accelerating to over two percent in 1998.

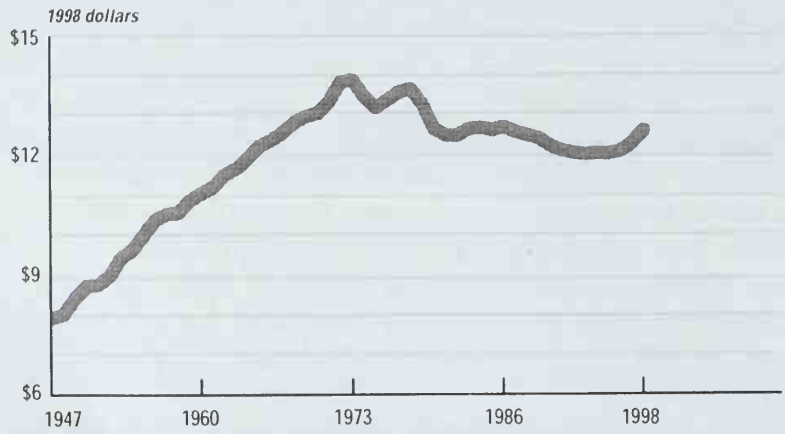
For many workers, the stagnating wages of the last quarter century were offset in part by growth in expenditures for other employer-provided

compensation, such as healthcare and pension benefits. Dollars spent on benefits grew more rapidly than those spent on wages and salaries during most of the 1980s and the first half of the 1990s, accounting for 28 percent of total compensation in 1995. Beginning in 1995, the benefit portion of workers' compensation grew more slowly, as employers increasingly chose to offer less expensive types of healthcare and pension plans in order to minimize the growth of labor costs.[2]

Stagnating real wages and cutbacks in other compensation, however, do not necessarily mean stagnating income and living standards. In fact, real family income for most Americans has risen, although slowly, over the past quarter century, reflecting the dramatic rise in two-earner families and the increase in the number of hours many families work.

Healthcare coverage. Even though wage growth surpassed benefit growth in the second half of the 1990s, employers responded to increased costs of benefits by moving rapidly to managed-care arrangements; shifting costs to workers in the form of higher premiums, copayments, and deductibles; or dropping healthcare plans altogether. The proportion of the nonelderly population without any form of health insurance increased from 15 percent in 1987 to 18 percent in 1997, primarily due to the decline in employer-provided coverage.[3]

CHART 2.1 **Average hourly earnings, 1947–1998 *(1998 dollars)***



SOURCE: BLS, *Current Employment Statistics*, earnings for production and nonsupervisory workers in private nonagricultural industries.

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Box 2.1

Changing healthcare benefits

American workers' health benefits have changed dramatically in recent years, and more changes are sure to come. At least four major forces are driving the changes:

- Increasing costs. Healthcare costs are growing—and are projected to continue to grow more rapidly than the overall cost of living, workers' incomes, and the economy as a whole.
- Changes in medical care. Technological advances and economic forces are changing medical care. Each year brings fewer and shorter hospital stays and better treatments for more conditions (including advances in prescription drugs that may reduce or eliminate the need for hospitalizations for many people). Increasing complexity and levels of specialization heighten the need to coordinate patient care and monitor its quality.
- Workers' changing needs and preferences. Changes in family structure, lifestyle choices, and the nature of work itself are changing workers' needs and preferences in health benefits. Workers seek benefits that fit a diversity of nontraditional work models, including flexible work schedules and locations, second and third careers, and partial retirement.
- Evolving regulation and government programs. The shape and reach of workers' benefits is influenced by tax incentives and government programs such as Medicare. Insurance regulation is increasingly focused on patients' rights, as a result of the dominance of managed care. These changes will affect the availability, cost, and content of insurance.

Average medical-care costs of a 50-year-old are two to three times those of a 30-year-old. Population aging is likely to contribute to higher average medical-care costs, further increasing the cost of employer-provided health insurance. As the average age of the workforce and the proportion of the workforce without healthcare coverage all rise, national debate regarding the effectiveness of employer-provided benefits and appropriate public policy may intensify.[4]

Pensions. Many employers offer no pension coverage to their employees. Roughly half of the private-sector workforce is not covered by any employer-sponsored retirement plan. A large percentage of nontraditional workers are excluded from employer-sponsored retirement plans. (See Chapter 7, Implications of Workplace Change.) Only 20 percent of workers in small businesses have any retirement plan. Low-wage workers are even less

Box 2.2

Changing private pensions

The private pension system reflects a mixture of employer efforts to influence and accommodate workers' choices about work and retirement.

From its start at the beginning of the century and into the 1980s, the pension system was dominated by traditional "defined benefit" arrangements—predictable monthly retirement payments based on a worker's pay and years of service. Reflecting companies' desire to retain workers once they acquired valuable skills, these plans are "back loaded" providing disproportionately more generous benefits to workers following "traditional" patterns—spending many years with a single company and retiring at a specified time—than to workers following other paths. Defined benefit pensions also reflected the widely shared view that investment management and financial risk were better handled by companies than by workers.

Beginning in the 1980s, "defined contribution" pensions, which provide rewards more directly linked to each separate year of work, began to challenge the leading role of defined benefit pensions. These newer arrangements are more adaptable to the needs of workers who change jobs or follow varied career paths. Such pensions, which typically credit a specified fraction of pay to worker-owned accounts each year, reflect employer desire to limit long-term financial exposure as well as a shift in companies' priorities away from retaining workers with eroding industrial skills to attracting new workers with up-to-the-minute technological and informational skills. Small employers, in particular, favor defined contribution plans to avoid the financial commitment and administrative complexities associated with a defined benefit plan.

The shift from defined benefit to defined contribution pensions also reflects a growing belief on the part of many companies and workers that workers can successfully plan and should have responsibility for their own benefits. In defined contribution plans, workers—not companies—often can and must decide what part of their pay to set aside for retirement benefits. Their eventual benefits will vary accordingly. What is more,

likely to have pension coverage. Only eight percent of low-wage workers are covered by an employer-sponsored plan, and many low-wage workers do not earn enough to contribute anything to a "defined contribution" plan even if they are covered.[5]

Among those employers who do sponsor retirement plans, many have moved to new types of plans that cause workers to bear more responsibility for retirement planning and expose them to risks associated with financial market performance. Such plans also increase the portability of pensions for workers who change jobs. Employers have traditionally provided "defined benefit" plans, which base benefits on years of work and salary.

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workers with defined benefit pensions can expect a monthly check in a promised amount, those with defined contribution plans typically decide for themselves how to invest their accounts and when and how fast to draw them down.

Where are pensions headed in the future? At least a few trends seem likely.

- With technological change and skills depreciation accelerating, companies will redouble their efforts to attract workers with the latest skills. There is already rapid movement toward "cash balance" pensions and other new or "reinvented" defined benefit, defined contribution, and hybrid arrangements designed to calibrate pension rewards with recruitment priorities. As companies compete for scarce workers, pensions will evolve to accommodate increasingly diverse career paths and retirement patterns, and government reforms will also seek to support such designs. The manner in which babyboomers make their transition into retirement will substantially dictate the magnitude of changes. Longer transitions through "bridge" jobs and partial retirements will accentuate the pressure for more individualized pension arrangements.
- Advances in information technology and financial products and services will improve worker access to financial information, lower transaction costs, and increase financial options. This will increase worker confidence in planning and managing personal finances and will encourage further shifts of pension responsibility from companies to workers.
- If pay gaps continue to widen and worker savings choices and investment experiences diverge, there is a risk that gaps in worker pensions will grow. In addition, the continuing shift from traditional defined benefit pensions, which provide collective income security, to defined contribution and other pensions—where security resides with each worker's individual account, whatever its investment value—may have important effects. Retirees who live long and depend on individual retirement accounts—or who do not hedge the risk of outliving their money by purchasing annuity products with their Individual Retirement Account proceeds—may not be as well off as those who have traditional defined benefit pensions.

Workers who become vested in such plans are assured a specified level of pension benefits at retirement. Over the past 25 years, however, employers have turned toward defined contribution plans, in which the benefit is the value of funds accumulated in an individual's account, a value affected by factors such as contributions and investment performance. Of the roughly half of private-sector workers with pension coverage through their employment, coverage through defined contribution plans has more than doubled in 25 years, rising from 33 percent in 1975 to about 80 percent by the end of the century. The proportion of covered workers enrolled in defined benefit retirement plans declined from 87 percent to about 50 percent in the same

period.[6] Approximately one in five covered workers has both a defined contribution and a defined benefit plan.

In the late 1990s, there was a further shift away from traditional defined benefit plans towards a new type of defined benefit plan called the "cash balance plan." Under such a plan, employers generally contribute four to seven percent of a worker's pay each year to an account with a specified rate of return, in many cases the 30-year treasury-bond rate. In 1998, 12 percent of defined benefit plans were cash balance plans, up from 5 percent in 1995.[7] Employer-provided pension plans may, in the future, continue this trend towards defined contribution plans or others with similar features. Other future changes in public or private pension policies may stem from workers returning to the workplace after retiring from their career jobs.

Wage Inequality: Will the Rich Get Richer and the Poor, Poorer?

The last few years of the 1990s provided significant real earnings growth for nearly all groups. However, this trend does not counter a trend of the previous two decades. Earnings among high-, middle-, and low-wage workers have grown at different rates.

High-wage earners have had comparatively larger increases in their wages than middle- and low-wage workers.

Twenty years ago, the average college graduate earned 38 percent more than the average high-school graduate. Today, it is 71 percent more.

Real weekly earnings for workers with less than a high-school diploma fell from $462 in 1979 to $337 in 1998. This downward trend continued for all workers who were not college graduates—nearly three-quarters of the civilian labor force in 1995. (See Chart 2.2.) In contrast, workers with a college degree attained gains during the period, with real weekly earnings rising from $758 in 1979 to $821 in 1998.[8]

Over the past quarter century, wage gaps between workers with different education levels have increased, largely due to falling real earnings for those with less education. Even with improvements in the late 1990s, workers who lack the required education and skills will continue to face declining job opportunities and wages.

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Over the long term, not only have the earnings of more highly educated workers been increasing relative to the wages of less highly educated workers, but inequality has increased even *within* groups of workers with the same educational attainment. The spread between lower-paid and higher-paid workers in each education group widened, particularly in the 1980s, reflecting the fact that education level is just one dimension of skill. This increased wage inequality within groups having similar educational attainment may indicate increased differentials in other workers' skills for those with similar education. The rapid growth in employers' need for more-skilled workers may be the key to explaining rising inequality and changing wage structure.

A commonly accepted way of assessing the change in wage inequality is to measure the extent to which change occurs in the ratios of high-wage, middle-wage, and low-wage workers. For the period 1979 to 1998, chart 2.3 illustrates the wage gap as the ratio of a high-wage worker's earnings (at the 90th percentile of the wage distribution) to those of a low-wage worker (at the 10th percentile). Similarly, to learn whether the wage gap is growing or falling across the entire wage distribution, we can compare the ratio between high- and middle-wage (at the 50th percentile) workers' earnings with that between middle- and low-wage workers' earnings. (See Chart 2.4.)

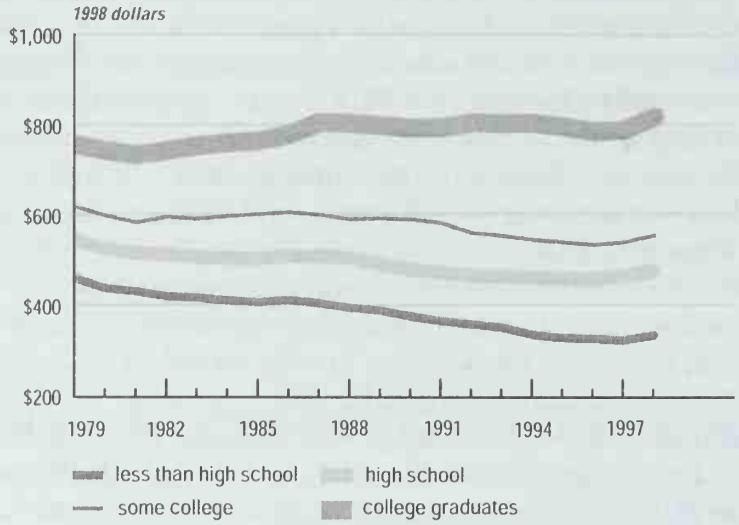
We can see in Chart 2.3 that the gap between high- and low-wage workers expanded rapidly during the 1980s. After forty years of narrowing inequality, the high-to-low wage ratio increased by 19 percent between 1979 and 1999 (from 3.7 to 4.4), largely because low-wage workers' earnings fell dramatically.

During the 1980s, the 90/50 and 50/10 ratios both increased rapidly, relatively speaking. During the 1990s, however, low-wage workers began to catch up with middle-income workers, due in part to increases in the minimum wage and similar government policies. The steady widening of the gap between high and middle earners is largely responsible for the overall increase in inequality over the last 25 years.

WHAT THE FASTEST-GROWING JOBS REQUIRE

Among the 30 occupations the BLS projects to grow the fastest (from 1996–2006), educational requirements and earnings of workers are quite

CHART 2.2 **Average weekly earnings by educational attainment level, 1979–1998 *(1998 dollars)***



SOURCE: BLS, *Current Population Survey*

varied. Only about half of these occupations require education or training beyond high school.

However, jobs requiring an associate's degree or higher are projected to grow faster than the average for all occupations. Occupations requiring a bachelor's degree will grow almost twice as fast as the overall average. The three fastest-growing occupations, which are all computer-related, require at least a bachelor's degree and have average earnings much higher than the average for all full-time wage and salary workers. And all of the 20 highest paying occupations require at least a bachelor's degree. Note, however, that while jobs usually requiring an associate's degree or higher are expected to grow faster than average over the 1996–2006 period, the majority of new jobs are expected to be in occupations requiring less than an associate's degree. Thus, most low-skilled workers may not lack employment opportunities. The challenge is how to make those jobs pay more than they currently do.

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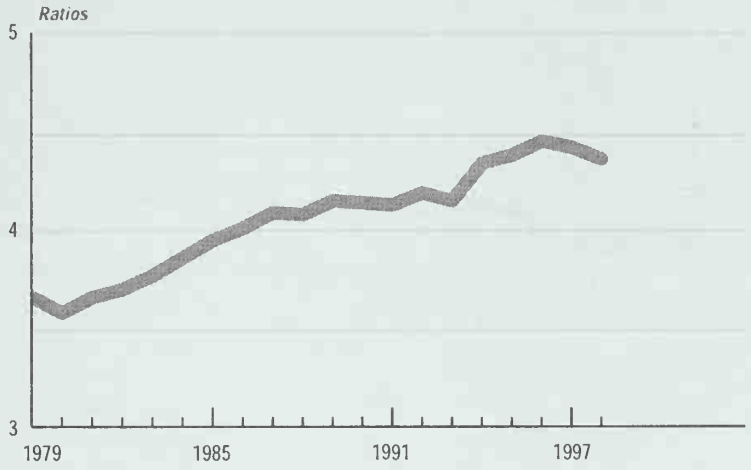
CHART 2.3 **Weekly earnings ratios—90/10, 1979–1998**



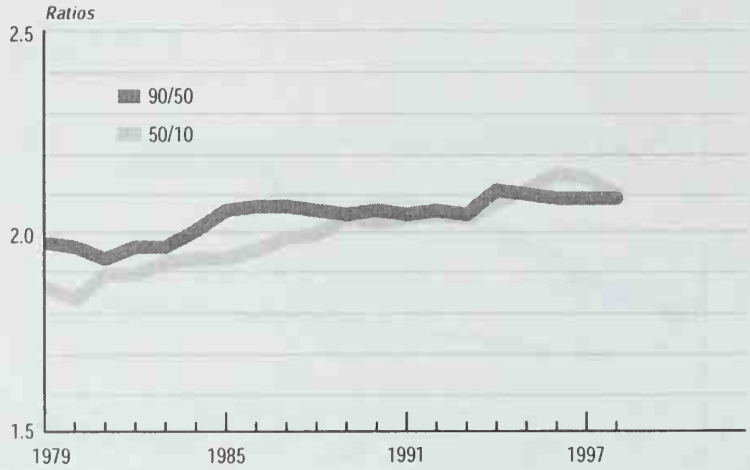
SOURCE: BLS, *Current Population Survey*

FACTORS DRIVING HIGH- AND LOW-SKILLED WORKERS' WAGES FARTHER APART

Why did workers' earnings become more unequal during the 1980s and early 1990s? Experts disagree on the exact causes, but five factors are generally cited—technological change, trade liberalization, increased immigration, reduced value of the minimum wage, and declining unionization. Real wages of high-skilled workers increased on average while the real wages of low-skilled workers tended to decline.

Technological change. Higher-skilled workers are at a premium when new technologies are introduced because they are better able to use them. Technological change has increased the demand for skilled workers in all industrialized countries, despite significant differences with regard to trade, labor-market institutions, and unemployment. At the same time, technological advances have led to some lesser-skilled jobs being replaced by new, automated devices.

CHART 2.4 **Weekly earnings ratios—90/50 and 50/10, 1979–1998**



SOURCE: BLS, *Current Population Survey*

Trade. Expanded trade can drive down the wages of low-skilled workers because it displaces the goods they produce.[9]

Immigration. Immigration has increased significantly since 1965, particularly among less-skilled workers with lower education levels, causing greater competition for unskilled jobs and lower wages for unskilled workers.

Minimum wage and unionization. The decline in the real value of the minimum wage and declining unionization have also contributed to the decline in earnings for low-wage workers. The federal minimum wage declined considerably in real value during the 1980s, because it remained fixed at $3.35 per hour despite price increases. After having reached a post-war peak in 1968, the minimum wage fell in real terms during both the 1970s and 1980s, reaching a level in 1990 significantly below its 1960 level. Failure to raise the minimum wage during the 1980s left low-wage workers further behind.[10] Future legislated increases in the minimum wage would help to reduce or stabilize wage inequality.

Declining unionization in the 1980s also contributed to increased wage inequality. The American labor movement has always had a goal to help

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Box 2.3

Who are the working poor?

More than nine million working Americans were living in poverty in 1997, and one-quarter of those worked full-time, year-round. For those in poverty, it is a struggle just having a roof overhead and food on the table. A family of three living in poverty did not even make $13,000 in 1997.

The working poor are disproportionately—nearly 60 percent—women. And minority women are more than twice as likely to be poor as white women. Workers in families with children, especially young children, are more likely to be living in poverty. Almost three million poor workers were in families with children under six years of age. In 1995, ten percent of full-time workers with significant disabilities were poor—and they were more than three times as likely to fall below the poverty line as people without disabilities.

Many of the working poor are teachers' aides and childcare providers. They are home health aides, caring for the sick, elderly, and severely disabled. They serve coffee at lunch counters and clean office buildings in communities across the country. They also work in security at the nation's airports, screening passenger luggage and operating metal detectors.

Nationwide, soup kitchens, food pantries, and homeless shelters are increasingly serving the working poor, not just the unemployed. In 1997, requests for emergency food aid increased in 86 percent of the cities surveyed by the U.S. Conference of Mayors. More than two-thirds of cities cited low-paying jobs as one of the main causes of hunger. Another study confirmed that three of five families seeking emergency food aid did so even though one or more family members were working.

While there are fewer working Americans living in poverty than just a few years ago, particularly given the expansion of the Earned Income Tax Credit and the increase in the minimum wage, success is still a long way off. No working family should have to live in poverty.

SOURCES: U.S. Department of Commerce, Census Bureau; U.S. Department of Education, National Institute on Disability and Rehabilitation Research; and the U.S. Conference of Mayors.

workers earn more and thereby gain access to the middle class. With declines in union membership, fewer workers benefited from the higher wages typically achieved through collective bargaining. The impact is probably the greatest on men, whose union membership rates (in private-sector employment) fell by 50 percent between 1973 and 1993.[11]

PAY GAPS PERSIST BETWEEN GROUPS

Pay gaps between different groups of American workers—between men and women, between whites and minorities, and between people with disabilities and those without—are another dimension of wage inequality. Though they have narrowed over the past several decades as a result of passage and enforcement of antidiscrimination laws and narrowing gaps in skills, such pay gaps remain and are likely to continue.

Men and women. Although the pay gap between men and women workers shrank by more than one-third between 1979 and 1998, women have yet to achieve parity with men. Overall, women's earnings have risen from 63 percent to 76 percent of men's earnings. While earnings of young women are nearly on par with young men (at about 91¢ on the dollar), older women lag further behind comparably aged men. Women 45 to 54 years old earn just 67 percent of what men earn, and women 55 to 64 years old earn just 66 percent.

The pay gap between men and women can be explained primarily by three factors. Roughly one-third of the pay gap between men and women is due to differences in labor-market experience and, to a lesser extent, educational attainment. Women have roughly the same average educational attainment as men, and their test scores are roughly comparable (though women tend to score slightly higher in verbal areas while men do so in math). Differences in courses taken by men and women contribute somewhat to the differences observed between college-educated men and women, but not to those between men and women with high school or less education. Work experience levels are lower among women, many of whom withdraw temporarily from the labor force to rear children.

Another 28 percent of the gap reflects differences in the occupations and industries in which men and women work and differences in their union status. Women continue to be concentrated in certain occupations (e.g., teaching and clerical work) and industries (e.g., retail trade and services). Some of this concentration, or "segregation," no doubt reflects women's choices, while some likely reflects barriers they continue to face in gaining entry to male-dominated fields.

More than 40 percent of the pay gap remaining between men and women cannot be explained by differences in the characteristics of female and male workers or the jobs they hold and is often interpreted as discrimination.[12]

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Discrimination can take many forms, such as being hired less frequently in high-wage firms; receiving less training and fewer promotions, particularly into the executive suite; and being assigned to lower-paying jobs within the same occupations. For example, in 1998, waiters earned 22 percent more than waitresses.[13]

Women workers also face a pension gap. Fewer than 40 percent of all women working in the private sector are covered by a pension, compared with 46 percent of men; and only 32 percent of current female retirees receive a pension, compared with 55 percent of men. The lower earnings of women contribute to lower pensions when they retire. The average pension benefit received by new female retirees is less than half that of men.

White women and minority women. Since 1979, the earnings of white women have risen 16 percent, twice as much as the 8 percent earnings increase of black women. While in 1998 white women's earnings were roughly 76 percent of white men's, the earnings of black and Hispanic women were only 65 and 55 percent, respectively, of white men's.[14]

White men and minority men. The wages of black men improved dramatically between 1940 and 1990. In 1940, black men earned on average only 40¢ for every dollar earned by white men. By 1990, black men's wages had climbed to about 75 percent of white men's; and, by 1998, to 76 percent.

Although the real wages of black men overall have stagnated or even declined since 1975, more-experienced workers benefited disproportionately compared to the newest workers. Black men with 10 or more years of labor-market experience continued to enjoy improvements in relative wages in the 1980s, but black men in the lowest experience category lost ground relative to white males with similar experience. Furthermore, the unemployment rate of black men remains twice that of white men, and their labor-force participation rate lags behind that of whites. While these rates have improved dramatically with the strong economy in the period 1993 to 1999, the unemployment rate of adult black men is still in the range of 6 to 7 percent and that of black teens in the range of 25 to 30 percent.[15]

Wage gaps vary among Hispanic, Asian, and white men. Indian and Japanese men earned somewhat more than white males; Mexican, Puerto Rican, and Vietnamese men earned less than two-thirds as much. The primary reason for the continuing earnings inequality between white and non-white men is the persisting gap in educational attainment. While the gaps

in the quantity and quality of education between native-born whites and minorities, as measured by test scores, have narrowed somewhat in the past few decades, the demand for skills appears to be rising even more rapidly. Blacks, Hispanics, and other minority groups frequently have fewer years of education and a poorer quality education. This contributes significantly to their lower employment and earnings levels.

Dramatic differences in educational attainment and English language ability across these groups of workers reflect a high concentration of immigrants. Differences in educational attainment and language ability seem to account for much of the wage gap between whites and Asians and especially between whites and Hispanics. Based upon historical experience, the education, and thus the earnings, of the sons and daughters of these immigrants will soon surpass those of their parents.

Other factors contribute to persistent labor-force inequality among racial and ethnic groups:

Employer perceptions. Differences employers perceive in the "soft skills"—such as attitude and communication ability—contribute to differences in their willingness to hire youths and minorities.

Racial discrimination. Discrimination by employers, patrons, and coworkers—especially against black males—and the "glass ceiling," blocks advancement opportunities for minority men as well as minority women. (See Chapter 5, Workplace Conditions, for further discussion.)

Limited early work experience. Young blacks have a particularly difficult time transitioning from school to work and thereby lose valuable early work experience. Such experience has proven important to employment stability and wage growth.

Spatial mismatch. Residents of inner city or rural areas may have limited access to available jobs in other cities and outer suburbs because of transportation limitations and lack of information and contacts in those neighborhoods.

Involvement in crime. Whether their perceptions are based on reality or stereotypes, many employers are unwilling to hire applicants that they suspect may have been involved in criminal activity. These lost opportunities to gain work experience most adversely affect young minorities.

Workers with disabilities and those with no disabilities. As a result of their low employment rates, people with disabilities are more likely to

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live in poverty than those without disabilities. In 1995, 30 percent of working-age people with disabilities had incomes below the poverty level—three times the poverty rate of working-age Americans without disabilities. Among people with significant disabilities that prevent them from working at all or qualify them to receive Medicare or Social Security Insurance, 36 percent have incomes below the poverty level. The poverty rate is even higher for certain segments of the population of people with disabilities. Of single women with disabilities who have children under six, for example, 73 percent are living in poverty. (See Chapter 1, Workforce, for more details.)

Even for people with disabilities who have jobs, income levels may be below average due to a combination of lower hourly wages and reduced work hours. People with disabilities who work full-time earn only 86 percent as much, on average, as full-time workers without disabilities. Among people working part-time, those with disabilities earn only 64 percent as much as those without disabilities. People with disabilities may have lower wages than those without disabilities because they lack the skills and education needed for better-paying jobs. As shown in Chapter 1, the educational attainment of people with disabilities is much lower than that of those without disabilities. Another reason for their lower wages may be that many people with disabilities, particularly significant disabilities, get tracked into low-wage jobs or into sheltered employment settings that pay sub-minimum wages and lack opportunities for career advancement or training. These practices continue in spite of evidence that, with appropriate services, accommodation, and support, many of these individuals could compete in the labor market and earn competitive wages.[16]

The Future

Most American workers will continue to enjoy the robust economy projected for the future, with its strong employment growth, stable prices, and increasing family income. Fundamental trends are positive, and while business-cycle fluctuations in employment and growth will undoubtedly occur, they are likely to be minimal.

Workers will continue to benefit from rising productivity, thus supporting continued growth in the purchasing power of American families. The Social Security Administration projects that real earnings will continue to grow at about one percent per year through 2010,[17] even as employers feel continued pressure to contain labor costs to compete in the global economy.

Technological change—perhaps accelerating in the future with the expansion of the Internet and other rapidly evolving telecommunications technologies—could continue to increase the gap between workers who have high levels of education and skills and those who do not. The increased premium on skills would by itself increase wage inequality, but it will also motivate more people to invest in their skills. If enough people obtain the higher skill levels required by rapidly changing technologies, wage inequality may continue to shrink. Wage inequality between middle- and low-wage earners may also narrow if lawmakers pass increases in the minimum wage sufficient to stabilize its real value.

The pay gap between men and women will likely continue to narrow as women gain increased labor-market experience and enter into higher-paying occupations. The trend may be slowed, however, by continued discrimination and by "segregation" of women in certain occupations and industries.

Signs of long-term progress in narrowing white–black pay gaps are apparent in the educational attainment of the black community including the higher college enrollment rates. Discriminatory behavior also seems to decline in tight labor markets, as employers hire workers whom they might not otherwise consider. Thus, if a tight labor market persists, people with limited education as well as women, minorities, and people with disabilities may gain valuable work experience that will improve their future employability and wages.

Nevertheless, negative influences such as the rising costs of higher education, reduced support for poor families, and economically segregated neighborhoods will continue to pose challenges for America's poor.

Technological changes, coupled with rising educational attainment, offer opportunities and provide the potential for increased competitive employment for people with disabilities. Thus, over time, this will narrow the gap between their average earnings and those of people without disabilities.

However, significant employment barriers remain, particularly for those who need but can not get healthcare coverage when they return to work. The loss of Medicare or Medicaid coverage can prevent individuals with disabilities from maximizing their employment and earning potential.

Any attempt to eradicate employment differences—between men and women, whites and minorities, or people with disabilities and people without disabilities—will have to address the wide range of labor-market and social barriers that these groups continue to face.

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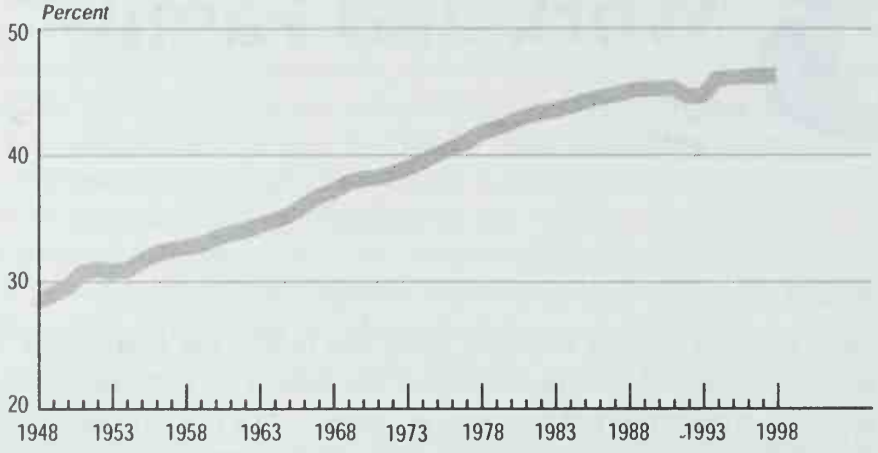
3 Work and Family

Stress and the tension between work and family are increasing. Major changes in American families—and the lack of corresponding changes in many workplace policies and practices—are the causes. Balancing work and family responsibilities, particularly the responsibilities of child- and eldercare, will remain issues in the workplace of the future, touching each of us at some point in our work lives, whether in the role of parent, spouse, or caregiver to our own aging parents.

Six in Ten Women Are in the Labor Force

Managing a household and a family is an important and time-consuming job. Adult workers, especially parents of at-home children, have always had family responsibilities that have at times conflicted with workplace demands. However, two factors—more families with both parents in the workforce and more one-parent families—have increased the opportunity for conflict between family and work. Perhaps the most important factor increasing the tension between work and family is the increased number of women in the workforce.[1] The increase in the proportion of women working or looking for work that began after World War II has been one of the most significant social and economic trends in modern U.S. history.[2] In 1940, 28 percent of American women were in the workforce.[3] This rose to 40 percent in 1966, 51 percent in 1979, and 60 percent in 1998. In 1940, one in four workers was a woman;[4] by 1998, almost one in two workers was. (See Chart 3.1.) Today, husbands are the sole worker in fewer than one-quarter of married-couple families.[5]

CHART 3.1 **Women as a growing percentage of the workforce, 1948–1998**



SOURCE: BLS, *Current Population Survey*

Researchers have suggested that wives have entered the workforce largely in response to women's rising labor-market opportunities, not in response to declining employment opportunities for their husbands.[6] Other factors in the increased participation of women likely include the need for a second income to keep up with the rising cost of living, the changed attitudes about a woman's role in the family, and reduced workplace discrimination against women.[7]

The rapid increase in women's labor-force participation slowed in the 1990s and is not expected to continue into the future. The slowdown was caused partly by a decline in participation among young women who stayed in school longer and partly by the long-term slowdown in growth in participation among women in the prime working-age group.[8] (See Chart 3.2.)

This slower rate of growth will continue between 1996 and 2006, according to Bureau of Labor Statistics (BLS) projections. However, growth in labor-force participation will be noticeable among 45- to 64-year-olds who will be more likely to work than were middle-aged women in the past.[9]

Because an increasing proportion of women work, their earnings have become more important to family income. In fact, the percentage of dual-

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CHART 3.2 **More women are working: labor force participation rates, 1948–1998**

SOURCE: BLS, *Current Population Survey*

earner couples in which wives earned more than husbands increased from 16 percent in 1981 to 23 percent in 1997.[10] Almost one in four wives now earns more than her husband, a proportion likely to increase in the future as more women break through the "glass ceiling" to the executive suite, move into higher-paying occupations, and devote a larger percentage of their adult lives to work.

More Parents in the Workforce

WORKING MOTHERS

The increasing number of mothers in the workforce has created time conflicts for many families. Families are trying to find alternative ways to do the work traditionally done by the stay-at-home mom. Some is done by other family members, some is bought from third parties (daycare workers, housekeepers, take-out restaurants, accountants, and the like), and some is simply left undone.

Box 3.1

How long is a mother's work day?

5:30 a.m. Get up early to have thirty minutes to exercise, make grocery list while getting dressed

6:30 a.m. Make the kids' breakfast and their lunches

7:00 a.m. Walk the dog; get kids up, dressed, fed and into the car

8:30 a.m. Take one kid to day care, the other to school, stopping at dry cleaner on the way to work

9:00 a.m. On the job!

1:30 p.m. Meeting at daycare center with childcare provider

2:00 p.m. Back on the job

5:00 p.m. Shut down the computer, forward calls to the cell phone

5:30 p.m. Pick up child from school aftercare and discuss the evening's homework assignment while driving to the daycare center

6:05 p.m. Pay the late arrival fee at the daycare center. Convince both children to help at the grocery store and do the grocery shopping

7:00 p.m. Arrive home, unload and put away groceries, make dinner, referee a spat between the kids over which evening TV program they're allowed to watch

7:30 p.m. Dinner time—take a breath, sit down, and enjoy learning about the kids' day

8:00 p.m. Do the dishes, supervise the kids' household chores and homework, change the load of laundry put in this morning, and feed the dog

8:30 p.m. Bathe the kids, call home healthcare attendant caring for an elderly parent

9:00 p.m. Read bedtime story and get the kids their last drink of water

9:30 p.m. Sit down and put feet up while folding the laundry; fall asleep over the cable news

The proportion of working mothers with children under six rose even faster than the proportion of all women in the workforce. In 1998, almost three out of four women with children were in the workforce (see Chart 3.3.), though growth in the percentage of mothers who had young children and who worked began leveling off in the early 1990s, as did the growth for all women.

Between 1969 and 1996, the number of working married women with children increased by 84 percent. By 1998, two-thirds of all mothers in married-couple families were employed.[11]

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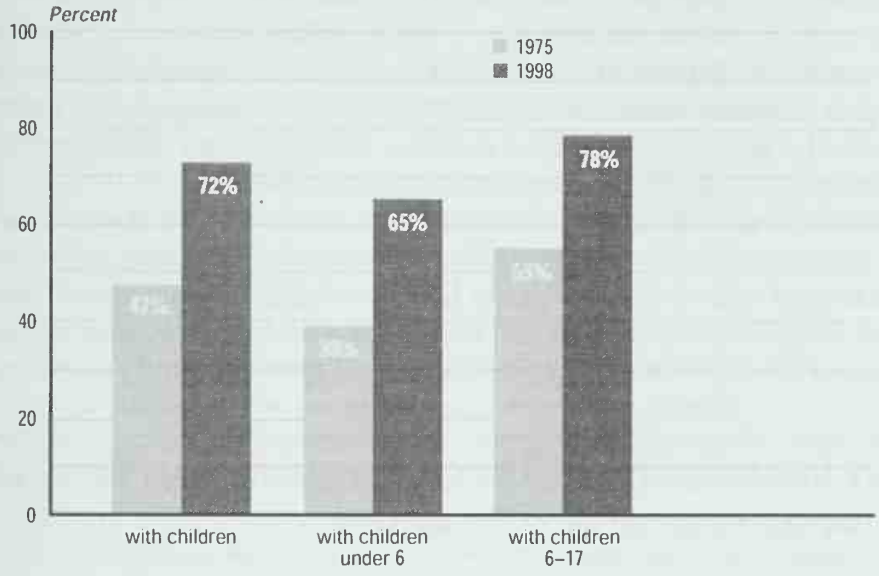
CHART 3.3 **Proportion of mothers in the workforce, by age of child, 1975 and 1998**



SOURCE: BLS. *March Current Population Survey*

The number of working mothers has increased for varied reasons. More women today may return to work after having children because they were firmly established in the workforce before childbirth.[12] Women with employer-provided leave are also more likely to return to work after childbirth, as are women whose income is a substantial portion of total family income. And mothers are more likely to return if they have spousal support, work part-time, or have other "flexibility benefits" like telecommuting, the ability to avoid overtime hours, and supervisor and coworker support.[13]

SINGLE PARENTS

Single parents who work not only face the challenge of raising children without the assistance of another parent in the home, but they usually must do so with much less income than a two-parent family. Working single parents often face both a "time crunch" and a "money crunch."

The number of single-parent families, especially those headed by women, has increased significantly since the 1960s. In fact, the proportion of single-parent families has more than doubled over the last 30 years, up from 11 percent in 1970 to 27 percent of family households with children today.[14]

The percent of single mothers[15] with children under 18 who work increased from 53 percent in 1969 to 66 percent in 1996.[16] About three of every five mothers with children under age six are employed. Over the last 23 years, the percent of employed mothers with spouses present grew more rapidly than the percent of single mothers employed.[17]

In recent years, the growth in households headed by single fathers outpaced the growth in those households headed by single mothers, but men still make up only one in six single parents. Single fathers grew from 1.7 million in 1995 to 2.1 million in 1998. There is likely to be a continued increase in the number of custodial fathers as gender equality increases.

Many Workers Have Responsibility for an Elderly Person or One with a Disability

Many workers must care for dependents other than children. About 7.3 million Americans age 15 and over, or 4 percent of the population residing in households, have difficulty performing one or more of the following activities: bathing, dressing, eating, using the toilet, and getting into or out of a bed or chair. More than half of this population requires the assistance of another person to perform these activities. Family members are the primary source of such assistance. Spouses are the most common providers (38 percent), followed by daughters (19 percent), other relatives (12 percent), and sons (8 percent). Only 9 percent of those needing assistance use paid providers.[18]

In 1996, 22.4 million U.S. households (almost 20 percent) provided informal care to a relative or friend age 50 or older, or had done so in the previous year. Employers report an increase in the number of requests for time off to care for aging parents. For example, at State Street Corporation in Boston, unpaid time off for eldercare now accounts for 15 percent of all leave requests, up from 8 percent 2 years ago. In 1998, at BankBoston, 50 percent of extended family leave involved care of elderly relatives.[19]

In 1996, more than 4 million households spent at least 40 hours a week in caregiving for the elderly; 1.6 million spent 20 to 40 hours a week.[20]

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Nearly 2 out of 3 family caregivers are working, 52 percent full-time and 12 percent part-time.

Because almost three-quarters of current caregivers are women, any rise in family caregiving will likely have a greater impact on women in the workforce than on men. Many caregivers must also balance the demands of marriage and parenting with caregiving. Sixty-six percent of caregivers are married, while more than 41 percent have one or more children under age 18 living in their households.[21]

The Families and Work Institute estimates that about 42 percent of workers will provide some form of eldercare by 2002.[22] BLS projects the growth rate of 65- to 74-year-olds in the civilian noninstitutional population to decrease and of those 75 and over to increase in the next 5 or 6 years. However, over the longer term, the ratio of those 65 and older to those likely to be in the workforce is expected to increase significantly, placing more demands on the working caregivers of the elderly.

The need for family caregiving may have profound implications for the future. A 1997 study estimated the aggregate cost of caregiving in lost production to U.S. business—absenteeism, costs of hiring replacements for those forced to leave because of caregiving responsibilities, workday interruptions, and employee health and mental care—at $11.4 billion per year. Workers have had to modify their work lives to meet the demands of caregiving. While only six percent of workers providing care report having to give up work entirely as a result of caregiving, more than half have had to make changes at work, such as leaving early, going in late, changing to part time, or taking time off during the day to accommodate caregiving.[23]

Workers Need Options for Child and Elder Care

The need for affordable childcare and eldercare constrains some adults from entering the workforce. For others, however, it creates jobs. (See chapter 4, Workplaces, on growth in the services sector.) An estimated 10 to 20 percent of nonworking mothers with young children do not seek employment because childcare is not available or affordable. In addition, about 20 to 25 percent of employed mothers would work longer hours if they did not have childcare constraints.[24]

In the fall of 1994, only about six percent of preschool children were cared for by their mothers in the workplace or while their mothers worked at

home. Forty-three percent received primary care from relatives other than their mothers, and about 29 percent went to an organized facility such as a daycare center. The number of children cared for in organized facilities has increased by five percentage points since 1987. Poor families, those receiving government assistance, and mothers who work part-time or on shifts other than day shifts rely more on relatives for childcare (over 50 percent).[25]

Childcare problems do not end once children are in first grade. In some ways, these problems become more difficult because part-day childcare is needed and it can be harder to arrange than full-day childcare. Using the most generous calculations, only about 64 percent of a full-time worker's standard work schedule is covered by the hours children are typically in school.[26]

NONSTANDARD HOURS

To the extent that parents, especially single parents, work nonstandard hours, there is an increased need for childcare around the clock. Nonstandard-hour and -day childcare are usually more expensive and less readily available. On the other hand, some parents choose to work nonstandard hours because that is when family caregivers are available.

Less-educated mothers are more likely to work a nonstandard schedule than are other women, largely because of the occupations in which they work, such as cashiers, nursing aides, and waitresses. These occupations are likely to grow in the future. Women with preschool children are more likely to work nonstandard hours than women without children or women with older children. One-third of mothers of young children who work nonstandard hours report that the major reason they work those hours is to accommodate childcare, likely by the father or other family member.[27] About 38 percent of all women cite childcare or the care of other family members as reasons for working nonstandard hours.[28]

EMPLOYER-PROVIDED ASSISTANCE

The childcare needs of working families are sometimes addressed in the workplace. Employer-provided childcare assistance includes dependent-care assistance plans, direct subsidies and vouchers, arranging employee discounts at daycare centers, resource and referral systems, and flexible schedules. Typically, firms in finance, insurance, and real estate service

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provide the most childcare assistance, and larger companies provide more than smaller ones.[29]

A 1997 study found that four times as many companies offered low-cost childcare assistance, such as access to information (36 percent), as offered onsite or nearby care facilities (9 percent). Few employers reimbursed childcare costs when employees traveled or had to stay late. The only widespread childcare benefit offered by firms (50 percent) was dependent-care assistance plans that enable parents to pay for childcare with pretax dollars.[30]

A 1996 survey of 1,050 major employers of salaried employees found that nearly one-third offered eldercare programs—an increase of 17 percent over 1991—though most assistance was in the form of resource and referral programs.[31]

> In an era of two-income families, flexibility—whether that means flexible start and stop times, working from home, or part time—is increasingly important to the American worker. [32]
>
> Shelley Donald Coolidige
> *The Christian Science Monitor*
> May 3, 1999

Unions and management sometimes negotiate for extensive childcare services as part of collective bargaining. For example, the Western New York Family Care Consortium was established in 1996 when United Auto Workers members in the Buffalo area talked with General Motors management about problems in finding quality childcare that fit their scheduling needs. Other employers joined the initiative, which in 1998 had an employee base of over 13,000 area workers. Consortium services include before- and after-school care at three sites; an extended-hours childcare center near the worksite for children 6 weeks to 12 years old, which meets the needs of second-shift workers by staying open until 2:00 a.m.; and an emergency backup telephone network to connect parents with providers when their usual childcare arrangements are disrupted.[33]

Working Families Have Shrinking Time

Eighty-five percent of wage and salaried workers live with a family member and have family responsibilities off the job.[34] (See Box 3.2.) Due to the increase in the number of women working and an increase in the

Box 3.2

The work and family balancing act

Even parents with a comfortable income may have difficulty coping with both job and family. For the working poor, these difficulties quickly multiply. First, they have less money for and less access to quality childcare. Using family or neighbors for childcare may be cheaper but may also be less reliable. Preoccupation with childcare can impair productivity at work—and absence from work to cover for a no-show babysitter may lead an employer to view the parent as unreliable.

Second, the jobs the working poor hold are often less regular (fluctuating hours or overnight shifts) and have fewer, if any, benefits (such as sick pay or vacation). Irregular hours may increase childcare problems, and a lack of benefits means the need to care for sick children or disabled parents turns into a day with no pay—or even no job.

"Family friendly" policies for the working poor go beyond job flexibility to include:

- higher wages through increases in the minimum wage
- access to jobs that do not disappear with every economic downturn or when the weather turns cold
- more preschool and summer-school programs for their children
- educational and job training opportunities to help them get better-paying jobs
- childcare subsidies so they can afford safer, higher-quality childcare
- better healthcare benefits to reduce the need for time off
- access to transportation to increase access to jobs

"[The working poor] take the jobs none of the rest of us want. They spend hours on their feet doing hard labor and then go home to attend to the needs of their families on wages that are too low to pull them above the poverty line even when they work full time and year 'round.... To do better by them is do better by the whole country's future."

Katherine S. Newman, Conference on Balancing Acts, June 1999

percentage of women working full-time,[35] most families have had to change how they cope with their work and family responsibilities, particularly the demands on their time. (See Box 3.3.) Women in married-couple families (with both spouses age 25 to 54) have significantly increased their hours at work over the last 20 years. In 1998, almost half of all wives worked 35 or more hours; slightly over one-third of wives with children under 6 worked these hours.[36]

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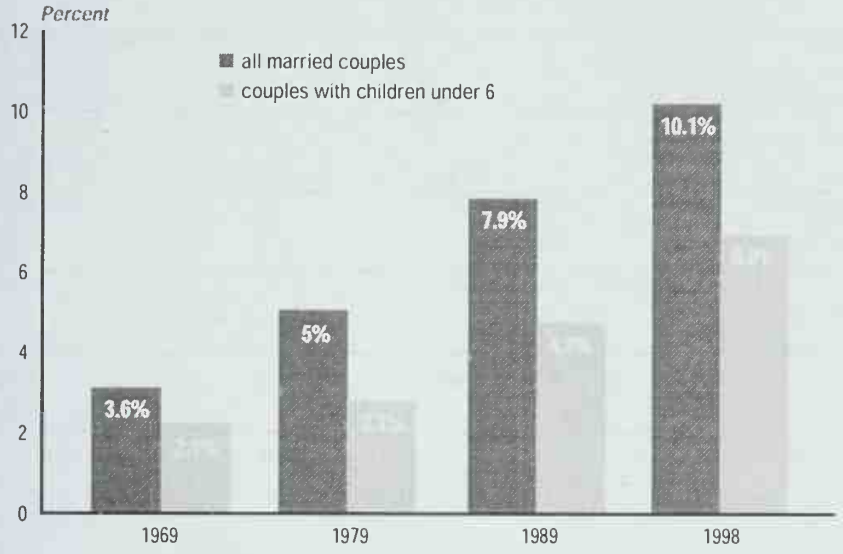
CHART 3.4 **Percent of married couples in which both spouses work more than 40 hours per week, 1969 and 1998**



Data are for couples age 25-54.

SOURCE: BLS, *Currently Population Survey*

For most American families, time available for nonwork or family responsibilities has decreased. In 1970, dual-earner couples were 39 percent of all married couples with children; they are now up to 64 percent.[37] Married couples averaged 14 more hours per week working in 1998 than in 1969—that is 700 more hours a year at work. Similar increases were found for couples with or without children; however, the greatest increase in hours of work per week was for couples with children under the age of three.[38] In addition, the percentage of dual-income married families (in which both spouses were age 25 to 54) who work more than 40 hours a week has increased significantly. (See Chart 3.4.)

While two-parent families' annual hours of paid work increased 18 percent between 1969 and 1996, single-parent households' paid hours increased 28 percent. Almost all of the increase for two- and single-parent households is due to women's hours.[39]

Box 3.3

The stress box

With the dramatic shift of women from households to workplaces, the hours American families work in paid jobs have increased significantly, making less time available for children and other family responsibilities. Competing demands of work and family have overburdened many Americans. Struggling to meet the needs of both job and family, they have little, if any, time left over for themselves.

A 1997 report revealed that 26 percent of employees felt emotionally drained by their work often or very often, and 36 percent felt used up at the end of the workday often or very often.[52] Such constant feelings of being overwhelmed can affect work, health, and family life.

Sleep deprivation also contributes to high anxiety levels. Many workers try to squeeze more time out of a day by sleeping less. Research indicates that Americans are sleeping an average of seven hours per weeknight, an hour less than experts say is needed. All of these pressures can add up to a day-to-day routine full of fatigue, stress, and the sense of being pulled in too many directions with too little time.

An obsolete network of resources, many argue, may exacerbate these pressures. Both in the community and the workplace, resources that do not sufficiently respond to the overburdened working family—be they traditional work scheduling, ad hoc child care, or even inflexible service hours for home repair—only make achieving a workable balance more of a struggle.

Innovative thinking—in the workplace, in the community, and in government policy—is needed to create options that better meet the needs of the American family.

Yet for the average individual worker, work time may not have increased significantly. Average hours at work changed little from 1976 to 1993, increasing just over 1 hour to 39 hours a week. After removing the effect of shifting age distribution, average weekly hours for men did not change and those for women increased by only one hour.[40]

However, while average hours have not changed much, the proportion of both men and women reporting that they worked on average more than 40 hours per week has been increasing for two decades. (See Table 3.1.) From 1979 to 1998, the proportion reporting working more than 40 hours a week rose from 35 to 40 percent for men and from 14 to 22 percent for women.[41]

In sum, when the hours worked by all family members are added together, most families today do have less "free time." A 1999 Council of Economic Advisors report estimated that working families who had children under age

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TABLE 3.1 **Average weekly hours worked by men and women, ages 25 to 54, 1969–1998**

	1969	1979	1989	1998
Men	43.7	43.0	43.1	43.2
Women	34.3	34.3	35.6	36.1

SOURCE: BLS, *Currently Population Survey*

18 had 22 fewer hours per week to spend with their families. If time for sleep, grocery shopping, cooking, and so on is subtracted, little time is left to spend with children or spouses. Employed fathers in 1997 spent an average of 2.3 hours per workday caring for and being with their children, an increase of 30 minutes since 1977. Employed mothers spent 3.2 hours with children on workdays, not a significant change since 1977. It is not surprising that 70 percent of fathers and mothers want more time with their children.[42]

FLEXIBILITY ON THE JOB

As caregivers for their elderly parents or disabled relatives, workers need time—to arrange care, to cover when caregivers are not available, and to do the things other caregivers cannot do. As parents, workers need flexibility to meet various needs of their children—doctor visits, PTA meetings, soccer games, and class trips.

One way workers find time for such family needs is through flexibility at work. In 1997, BLS reported that 28 percent of full-time wage and salary workers had flexible work schedules that allowed them to vary the time they began or ended work, nearly double the 15 percent with that flexibility in 1991. The prevalence was widespread across demographic groups, occupations, and industries, though it was much higher in service-producing industries than in goods-producing industries.[43]

As noted previously, work schedules with nonstandard hours can either help a working family or increase the demands on it. When the nonstan-

dard hours are chosen by the worker to accommodate available childcare, for example, nonstandard hours are helpful. On the other hand, when a worker is required to work evening or weekend shifts, especially on short notice, it may be more difficult to get childcare and to participate in the sports, school, religious, and community activities of the children.

Data on trends in nonstandard hours are not available. However, we can expect a rising prevalence of such schedules given the growth in the service economy where nonstandard-hour jobs are more common. In addition, when both parents or a single head of household works, the demand for services outside of normal working hours increases, eating out increases, and the purchase of homemaking services increases. In two-earner families, the rise in family income may also lead to a demand for recreational and entertainment services at night and on weekends. The aging of the population has also increased the demand for medical services around the clock.[44]

Another way employers can help workers cope is to allow them to take time off (for example, vacation time or family leave) to meet family needs. A 1997 study found that employed mothers with children under 13 miss an average of 6.4 days a year because of family-related issues. Employed fathers with children under 13 miss an average of 3.9 days.[45] When time off is needed because of the birth of a child or the serious illness of a family member, one tool for working families is the Family and Medical Leave Act. The act requires companies with 50 or more workers to offer up to 12 weeks of unpaid, job-protected family or medical leave to qualified employees. Since the law was passed in 1993, millions of workers have taken advantage of the law by staying home with a newborn child or sick family member.

Another change in workplace practices that has helped some families with childcare or eldercare is the ability of employees to work at home. In May 1997, 21 million employees worked at home (though not necessarily all the time), but more than half were wage and salary workers not paid for work at home. About 5.2 million of those who worked at home did so to help out with family and personal demands. Yet in spite of the flexibility it can offer working families, work at home did not grow much in the 1990s.[46]

Flexible work arrangements can go beyond the choice of starting and stopping time, working at home, and time off during the day. Data from the 1997 National Study of the Changing Workforce illustrate the various workplace options and their prevalence:

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- 68 percent of companies allowed workers to change their starting and quitting times periodically.
- 24 percent allowed workers to change starting and quitting times daily.
- 57 percent permitted workers to move from full-time to part-time status and back while in the same position or level.
- 38 percent had jobsharing.
- 55 percent allowed employees to work at home occasionally.
- 33 percent let workers work off-site on a regular basis.
- 88 percent gave time off for school or childcare functions.
- 84 percent permitted workers to return to work gradually after childbirth or adoption.

A barrier to expanding use of flexible work arrangements is that many workers (40 percent in one survey) think it hurts their advancement opportunities.[47] A 1998 survey of 500 women clients, by a firm that places people in flexible jobs, found 59 percent never asked their employer for flexible work arrangements, since they assumed the answer would be no and their careers would be harmed merely by asking.

Sometimes the available tools are not enough. Some workers find they cannot work as much as they would like—or need. Others find they cannot work at all while trying to fulfill family responsibilities. For example, while half of employed caregivers of the elderly reported taking time off, coming in later, or working fewer hours, six percent stopped working altogether and four percent took early retirement.[48] And many families are concerned about reducing hours and the likely loss of earnings. The challenge is to give workers the ability to take time for their families without sacrificing pay.

The Future

"Ozzie and Harriet" have become demographic dinosaurs. Harriet does not stay home any more. Well over half of all mothers with young children work, and an even larger percentage of mothers of school-age children work. Neither Ozzie nor Harriet gets home by 5:00 every night. And when one parent opts out of the workforce, it may be Ozzie who is taking care of the kids. In addition, both may now help care for aging or ill parents who live in different parts of the country.

These responsibilities have led to a time crunch—not enough hours in the week for fulfilling work and home responsibilities. In some cases, a

person needs to be in two places at once—at work and at a sick parent's bedside, or at work and at home with a newborn child. Because workers have limited options (many cannot find or afford to switch to less stressful jobs, work part-time, or hire housekeepers), working parents look to their employers and others who affect the workplace to help them cope.

With little change expected in the number of children per family and continuing slower growth in labor-force participation of women, burdens on families with children may not increase greatly, although special needs such as around-the-clock childcare and sick care may increase.[49] However, as the population ages and workers assume responsibilities for their elderly relatives, we can expect demand for job flexibility and eldercare programs and other options to increase.[50] In addition, a new time demand may arise from worker needs to pursue additional education and training to keep their job skills up-to-date.

No matter what the real increase in time demands will be, families already perceive that they have less time than before. In spite of time-savers like home shoppers, microwaves, and take-out food, families are struggling to cope, and they will likely continue to need more affordable and available child- and eldercare and increased flexibility on the job.

How do we help working families? We cannot add hours to the day or instantly "beam" a working mother from her jobsite to her child's bedside. However, companies, communities, state, local, and federal governments, and labor unions, individually and together, can take steps to provide flexibility and opportunity for workers to fulfill their responsibilities at home and at the job. There is no one answer—different families have different needs—but there are many options and opportunities to help.

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4 Workplace

American workplaces have long been an arena for change. The combination of political freedom and political stability has created a climate in which new ideas can flourish to yield economic progress. This chapter examines two principal characteristics of workplaces that may affect their future—the industry of the employer and whether the workplace is unionized.

What Work Will Need Doing?

We can predict the types of jobs Americans will perform in the next century based on long-term trends. At the time of the Revolutionary War, the U.S. economy was largely agricultural. Nonagricultural employment, however, grew steadily in importance as manufacturing developed and finally overtook agricultural employment shortly after the Civil War.

This shift from agriculture to manufacturing was followed by a second major shift from manufacturing to services. By the early twentieth century, the number of workers in the service-producing sector was reaching parity with that in the manufacturing sector.

These trends have continued through the century, causing some analysts to label the American economy "postindustrial." The Department of Labor's Bureau of Labor Statistics (BLS) projects similar employment trends in the future.

THE WORKFORCE BECOMES INCREASINGLY URBAN

Continuing a long trend, agriculture, which has under 4 million jobs or less than 3 percent of all employment, is projected to decline by 24,000 more jobs over the period 1996 to 2006.

As agriculture has declined as a source of employment, the American workforce has become increasingly urban and suburban. The decline in the family farm has caused many Americans to exchange their rural lifestyle for an urban one. Over the last 30 years, the percentage of the population living in urban areas has increased by more than 10 percent to the point that 4 out of 5 people live in urban areas.

EMPLOYMENT SHIFTS FROM MANUFACTURING TO SERVICES

The number of jobs in the goods-producing sector of the economy has been fairly stable since 1970 and is projected to remain so over the 1996–2006 period, with a projected increase of only 20,000 jobs. Construction is the only major goods-producing industry where employment is projected to increase, due to a strong demand for housing.

Though still the largest employer among goods-producing industries, manufacturing now accounts for only half the share of total nonfarm employment it did in 1970. Between 1996 and 2006, manufacturing is projected to decline by 350,000 jobs to 18.1 million. The decline in manufacturing jobs has been characterized as the de-industrialization of America.

Just as the early twentieth century shift toward more efficient assembly-line techniques cost manufacturing jobs, so too have computer-technology-based productivity increases made it possible in the last decades of the century to produce more goods with fewer employees.

Though manufacturing's share of total employment has declined, it still accounts for about 30 percent of total gross domestic product today, as it has for the last three decades.

Widespread use of just-in-time production is another reason for manufacturing's reduced employment. With just-in-time production, firms carefully time their production schedules to the needs of their retail outlets or end users, avoiding costly inventory holding and increasing efficiency.

Cost reduction has driven part of the recent loss of U.S. manufacturing jobs. Many U.S.-based multinational corporations have relocated much of their low-skilled production to foreign countries where wage rates for

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Box 4.1

American small businesses

New business formation reached a record level in 1998 with an estimated 898,000 new firms.

While it seems that high-tech ventures are all the rage, high-tech firms may actually account for only two percent of all small business start-ups. Small businesses come in all shapes and sizes,* but many still begin as a one-person shop in the garage. In many cases, Americans are turning their hobbies into lucrative new businesses. Roughly 60 percent of all new small businesses are started in the home with existing technology and capital, which may mean the kids' computer and the parents' credit card. People with disabilities are taking advantage of benefits afforded by entrepreneurship—they have more small business experience and higher rates of self-employment than people without disabilities.

Small businesses currently employ about half of the private-sector workforce.

* While it varies with the industry, the Small Business Administration definition of small business includes companies with as many as 500 employees.

SOURCE: Small Business Administration, Office of Advocacy

unskilled workers are relatively low—Mexico as well as Asian countries such as China, Malaysia, and Thailand. Large numbers of U.S. jobs have been lost in the textile and apparel industries. In response to imports growth, some textile firms have invested heavily in labor-saving capital equipment, further reducing employment.[1] (Outsourcing of production to other countries is discussed further in Chapter 6, Technology.)

GROWTH IN SERVICE JOBS

Since 1970, most job growth has been in the service-producing sector, a trend expected to continue as nonhousehold, service-producing jobs are projected to increase by 17.6 million between 1996 and 2006.

One force driving the growth in service jobs has been a shift from work done in the home by family members to work done in the market. (See Box 4.2.) Families are "contracting out" work they used to do themselves. The way Americans prepare meals provides a dramatic example. Meals eaten at home rely increasingly on the purchase of prepared or partially prepared foods. Food stores have hired more staff to respond to the need for convenience with features such as delis and salad bars. Fast-food and carryout

Box 4.2

Buying time

American workers are increasingly buying time-saving products (dinner from the local deli comes complete with vegetables and disposable utensils) and hiring others to perform household services such as gardening, live-in childcare, and housekeeping. Maria America is a Southern California agency that places housekeepers, nannies, and other domestic help. Among its recent clients are a plumber, a fast food manager, and a supermarket cashier.

Across income levels and occupations, workers' reasons for hiring help are the same: they are buying time. Ken Dees, who is a software engineer, and his wife Diane, a hospital executive, employ a nanny and a part-time gardener. Says Mr. Dees, "My grandfather must be turning in his grave that there are people mowing our lawn. We never had help when we were growing up. Up until a few years ago, I mowed my own lawn . . . . But I dreaded racing home from work, scrambling to make dinner for the kids. Our careers have accelerated and this makes life so much easier."

SOURCE: Adapted from *The Wall Street Journal*, June 23, 1999

restaurants, as well as restaurants delivering food to the home, have both diversified and multiplied. The growth in meals eaten outside of the home, the result of both a long-term trend and the recent economic boom, has also led to a sharp increase in employment at eating and drinking establishments. This trend can be expected to continue as children brought up in homes where little cooking is done grow up lacking traditional cooking skills.

Increases in the percentage of women who work outside the home have contributed to the growth in retail services as well as retail products. Greater spending power and limited free time have inspired the growth of stores that provide convenience—from catalog shopping to greater emphasis on customer service to personal shopper services.

Childcare, too, is being "contracted out"—to daycare centers and nannies. The childcare industry is projected to add 164,000 jobs between 1996 and 2006. Similar changes are occurring in the care of the increasing population of elderly persons. Residential care institutions—which provide 24-hour, year-round personal care and only incidental health care—have multiplied, along with nursing homes and home healthcare services.

Healthcare jobs have increased since the 1950s—more than in any other comparable industry group—due to population aging, new technologies, and greater administrative requirements. Jobs in medical offices, clinics, and health maintenance organizations have grown rapidly as the health-

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Box 4.3

Women in business

The state of women-owned businesses today is impressive:

- From 1987 to 1999, the number of women-owned firms in the United States more than doubled.
- About 40 percent of all businesses in America today are owned by women.
- Women-owned businesses employ 27.5 million workers and generate annual sales and receipts of $3.6 trillion.
- Women start businesses at twice the rate of all business start-ups.
- The greatest growth in women-owned businesses between 1992 and 1999 occurred in the construction, wholesale trade, transportation, communication, agriculture, and manufacturing industries.
- Hispanic women are the fastest growing segment of the small-business community—they are three times as likely to start their own business as other business owners.
- More than 60 percent of women-owned small-business start-ups are based at home.

Despite progress, women business owners still face obstacles. Securing sufficient financing to take a business to the "next step" remains one of the largest inhibitors. Women's access to capital—both debt and equity financing—has been limited because many of their businesses are simply too small to meet the criteria of most venture capital funds. Groups such as the founders of the Women's Growth Capital Fund hope to reduce such financial impediments through a venture capital fund designed to finance women-owned businesses into the twenty-first century.

SOURCE: National Foundation for Women Business Owners, 1999 Facts on Women-owned Businesses: Trends in the U.S. and the 50 States, and the Small Business Administration, Advocacy Report on Women in Business, October 1998.

care industry tries to provide more services in less expensive ways. Nurse practitioners (who typically have a master's degree and more training than registered nurses) have increased in number as the healthcare industry encourages their use for functions formerly performed by doctors. In recent years, states have increased nurse practitioners' authority, often allowing them to prescribe drugs and admit patients.[3] Health-services employment is projected to increase by 3.2 million jobs between 1996 and 2006.

Contracted-out business activities have accounted in part for the decline in the manufacturing sector, while making business services the most rapidly growing industry in percentage terms. Activities once done within

manufacturing firms are now accomplished externally, causing rapidly expanding employment in such businesses as computer services, data processing, advertising, and mailing and reproduction.

Employment in government has been decreasing at the federal level and increasing at the state level. In the 1990s, federal government employment declined to its lowest level in 30 years, while state and local government employment, particularly in education, increased and is projected to continue to grow through 2006.

THE VIRTUAL MARKETPLACE WILL HAVE MAJOR INFLUENCE

Electronic commerce, or e-commerce—buying, selling, or conducting other transactions via the Internet—has important implications for the workplace. Retail sales over the Internet avoid direct public contact and direct exchange of cash, potentially reducing customer discrimination or workplace violence. People with disabilities can increase their access to jobs and marketplace goods and services through computer technologies. The popularity of such firms as bookseller Amazon.com and online discount brokerage Charles Schwab has prompted a host of other companies to rush to do business on the Web. In one year (1996 to 1997) sales through e-commerce more than doubled, from $15.5 to $38.8 billion, and in 1998, sales are estimated to have exceeded $300 billion.[4] New estimates are for total e-commerce to reach $1 trillion a year by 2005.[5]

E-commerce reduces use of conventional stores, increases mail delivery services, and reduces inventory. Conventional stores may have to change to compete, providing more customer service or more ambience, or inventing new amenities.

Who Will Belong to Unions?

In 1998, 16 million workers were union members—16 percent of employed men and 12 percent of employed women. Blacks had higher membership rates than whites and Hispanics—18 percent, 14 percent, and 12 percent, respectively. Over the twentieth century, union membership followed the rise and fall of American industries. As the share of manufacturing jobs declined, so did the percentage of workers who belonged to unions. International competition for low-cost labor and employer opposition to organizing may have contributed to the decline. But the 1990s saw an

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Box 4.4

The office of the future

A group of more than 100 electrical, chemical, mechanical, civil, and heating, refrigeration, and air conditioning engineers was recently surveyed to describe how—using currently available technology—the workplace of the future will be more environmentally friendly.[2] Overwhelmingly, engineers cited computer technology as the dominant influence on almost every aspect of the future workplace. Some of the other predictions included:

- Ergonomic keyboards and voice-activated data input and retrieval, reducing carpal tunnel syndrome and other repetitive-motion and stress-related injuries.
- A vast increase in work from home, using teleconferencing, e-mail, and other digital communications.
- More fingertip control and less brute force.
- Healthier workplaces that are friendlier to the environment. New office buildings will also be more energy efficient, designed to use natural light and advanced, efficient lighting technologies. More people working at home means less commuting—4,000 miles less a year for the commuter with a 40-mile roundtrip to work who works at home two days a week—reducing fossil fuel consumption, emissions, and commuting stress.

increase in union organizing drives, especially in industries such as health care and state and local government, where future growth is expected.

CROSSING TREND LINES...AND THEIR CAUSES

In the second half of the twentieth century, following the issuance of executive orders by Presidents Kennedy and Nixon and the passage of the Civil Service Reform Act of 1978, union membership increased sharply among government workers but dropped in the private sector. From 1950 to 1998, union membership more than tripled in the public sector—from 10 percent to over 37 percent of that workforce. During the same period, private sector unionization declined from 35 percent to 10 percent. Union membership showed signs of increase in the late 1990s.

While international competition, particularly in certain manufacturing industries like apparel and footwear, played a role in declining private-sector unionization during the last half of the century, renewed employer hostility to organizing has also contributed to the decline in union membership rates. In the early 1950s, employers unlawfully discharged union

Box 4.5

Evolution of retail

In times past, people pored over the Sears catalogue and purchased goods that came to them across the reaches of rural America. With urban development came large downtown department stores for the same shopping. Then came suburban living and the invention of the shopping center. Now technology has once again released our shopping from geographic connections: one can purchase almost anything imaginable, from almost anywhere in the world, over the Internet.

supporters in just one of twenty organizing campaigns. By the 1990s, such unlawful terminations took place in a minimum of one in four union organizing campaigns, according to the 1994 report of the Commission on the Future of Worker–Management Relations. Unions' success rate in organizing drives dropped from 75 percent to 38 percent over the period.

The use of labor relations consultants by employers may also be affecting union membership. By the late 1990s, as many as 70 percent of employers facing union organizing drives had used labor relations consultants. Since the 1960s, the labor-relations consulting industry has grown dramatically in size and sophistication. Today these consultants advertise on the Internet their ability to offer "full-scale antiunion campaigns," using new technologies to persuade employees to oppose union representation.

> Unions raise pay. Unions increase benefits. Unions keep workers safe. Unions help make sure more workers can share in our nation's prosperity. Unions improve the lives, not just of organized labor, but for all who labor .... The labor movement has always been about keeping the foundation of American values strong as we build America's future.
>
> Secretary Alexis M. Herman
> July 30, 1998

NEW EFFORTS REVERSE EARLIER DECLINE

Recent organizing efforts successfully targeted low-wage workers and others with historically low levels of unionization. In 1998, 4,500 workers at a large Las Vegas hotel persuaded their employer to voluntarily recognize their choice of the Hotel Employees and Restaurant Employees Union. In

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1999, 75,000 home-care workers in southern California voted for representation by the Service Employees International Union.

Other unions used new, coordinated methods of organizing to extend representation to diverse crafts workers in a single industry and region: the building and construction trades unions in Las Vegas registered 7,000 new members between 1997 and 1998. Five unions concentrated their efforts on 175,000 public employees in Puerto Rico in 1999, with positive results. Still other unions focused on the service sector: the International Association of Machinists was chosen by 19,000 passenger-service workers at United Airlines in 1998. At the same time, a small but growing number of employers were calling for a truce with organized labor by agreeing to forego protracted and often bitter campaigns that precede a union election. Several major communication companies, for example, reached agreements with the Communications Workers of America (CWA) to recognize the union without an election where a majority of employees showed their support for CWA representation by signing recognition cards. Card-check recognition, as it is called, resulted in union representation without a contested election for thousands of workers at employers such as SBC Communications, Ameritech, and Pacific Bell Wireless. And at Lucent and AT&T, labor and management agreed to an expedited election process after a majority of workers indicated their support for union representation. Similarly, USX and Bethlehem Steel agreed with the United Steelworkers of America to remain neutral during organizing drives at their nonunion facilities and at newly acquired ventures.

While some organizing campaigns met with less success, the labor movement's use of new approaches and emphasis on new industries may yield additional gains in union membership in twenty-first century workplaces.

UNIONS BENEFIT WORKERS AND EMPLOYERS

Unions have continued to generate higher worker pay and benefits. Union members overall earned nearly one-third more than nonunion workers. The premium on union membership for women was still higher—39 percent. Black and Hispanic workers fared even better: black workers in unions earned 45 percent more than nonunion black workers, while unionized Hispanics made more than half again as much—54 percent—as their nonunion counterparts.[6] Higher benefits, lower workplace inequality, lower

workforce instability, and greater job security provide additional gains for workers—the incentives for workers to join unions remain strong. And there is evidence that unionization helps employers as well. A 1997 study found that productivity in unionized firms with high performance workplaces was about 10 percent higher than in comparable nonunion firms.[7] Most of the union shops had adopted programs in which up to half the workers met regularly to discuss workplace issues. When unionized firms allowed production workers to share in the firms' profits, productivity reached rates 20 percent higher than in nonunion firms.

The Future

Future workplaces will reflect decades-long trends, such as the continued rise of employment in the service sector. Other trends appear to be reversing course. Vigorous efforts by unions to organize industries that have traditionally not been organized, as well as new approaches to organizing in other industries, may lead to increases in the unionization rate despite the continued decline in the relative share of employment in the manufacturing sector, where unionization has traditionally been high. Future workplaces will also reflect changes that cannot be predicted confidently—such as those brought about by e-commerce and the Internet—since their effects are so recent.

> We understand that the world and workplace have changed, and so must we.... The role of our labor movement is not to reminisce about the old economy but to represent working Americans in the new economy.
>
> John Sweeney
> October 21, 1996

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5 Workplace Conditions

The last quarter of the 20th century saw major improvements in worker safety and health in America's workplaces. While some problems remain, new and largely unforeseeable safety and health concerns will emerge in the workplaces of the 21st century. Although diminishing, employment discrimination has not been eradicated. Workers' personal health will increasingly be a workplace issue, potentially causing concern about rights to privacy. Both old and new problems present challenges and opportunities for cooperation among employers, workers, labor unions, and policymakers. This chapter reviews the history of efforts to improve workplace conditions, assesses these conditions at the turn of the century, and offers a glimpse of potential future concerns.

Mines, Factories, and Other Workplaces Have Become Safer

Full-time workers typically spend more than one-third of their weekday waking hours at work. Clearly, the conditions under which they work can have a major effect on their lives. Thirty years ago, the federal government recognized the need to protect workers' safety and health: Congress passed and the President signed the Federal Coal Mine Health and Safety Act of 1969 and the Occupational Safety and Health Act of 1970. Both of these acts affirm that safe and healthy workplaces benefit not only working men and women, but also employers and society at large.

Today, American workers are healthier and more productive than ever. Young workers are better protected against workplace injuries. Families

suffer fewer work-related tragedies. Employers can focus resources on increasing their competitive positions, rather than paying workers' compensation for preventable injuries and illnesses.

As a new century begins, it is appropriate to reflect on the many improvements that have kept American workers safer and healthier. The workplaces of the future, however, will bring new challenges. More Americans than ever work, and workplace risks are changing. As we continue to learn more—about chemicals and other workplace contaminants, the effects of poorly designed equipment and processes, and other workplace hazards—it is clear that workers continue to suffer from injuries and illnesses that can be prevented with knowledge, attention, and cooperation among governments, employers, workers, and unions.

DRAMATIC REDUCTIONS IN WORK-RELATED FATALITIES

The first systematic survey of workplace fatalities early in the 20th century found that from July 1906 through June 1907, 526 workers died in "work accidents" in a single county, Allegheny County, Pennsylvania. Steelworkers accounted for nearly half (195) of these deaths. By contrast, 18 fatalities occurred in the blast furnace and steel industry in 1998. In 1913, the Bureau of Labor Statistics (BLS) documented 23,000 industrial deaths among the U.S. workforce of 38 million, equivalent to a rate of 61 deaths per 100,000 workers. By contrast, BLS reported 6,026 workplace fatalities in 1998, or fewer than 5 deaths per 100,000 workers. Workplace fatalities for teens (15- to 17-year-olds) are also declining: their fatality rate dropped 37 percent from 1992 to 1998.[1] According to the Centers for Disease Control, if today's workforce of approximately 130 million were subject to the same risk of dying from occupational injury as were workers in 1933, an additional 40,000 workers—nearly seven times as many—would have died in 1998 from preventable occupational hazards.

There has been a marked change in the safety and health of the workforce since the enactment of the Occupational Safety and Health Act. National Safety Council data show that the rate of decline in workplace fatalities has been more rapid since creation of the Occupational Safety and Health Administration (OSHA) within the Department of Labor. Work death rates dropped by 38 percent in the 22-year period prior to OSHA's existence, from 29 per 100,000 workers in 1948 to 18 per 100,000 in 1970.

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In the 22 years following the OSH Act, work death rates dropped by over 61 percent, from 18 per 100,000 in 1970 to 7 per 100,000 in 1992.

The story in mining is similarly significant. Early in the 20th century, more than 2,000 miners were killed annually. In 1907, a single explosion in an underground coal mine in Monongah, West Virginia, killed 362 men and boys. Over the next decade, more than 3,000 coal miners lost their lives in gas or dust explosions. Sixty years later, during the decade when the Federal Coal Mine Health and Safety Act was enacted in 1969, the average annual number of deaths in the mining industry still exceeded 400. But from 1990 through 1997, fewer than 25 coal miners died in explosions. By 1998, total fatalities in both coal and metal mines had plummeted to 80, for a rate of 27 per 100,000 workers.

Risks Vary with Industry and Workplace Size

While the collective success during the 20th century is impressive, roughly 50,000 workers still die every year from occupational diseases. Unlike deaths due to injuries, fatalities from occupational diseases are frequently overlooked because they tend to occur long after workers are exposed to harmful chemical or physical agents. The latency period—the time between exposure to a hazardous chemical and the onset of disease—may be decades long. Shipyard jobs with exposure to asbestos during World War II, for example, were associated with cases of mesothelioma and lung cancer from the 1960s through the 1980s. Occupational cancer, silicosis, berylliosis, hepatitis, and many other occupational illnesses and diseases result in deaths that may occur many years after exposure.

The risks of occupational disease, injury, and fatality are not limited to a few industries. Although only 1 in 17 workers is in the construction industry, these workers account for fully 1 in 5 on-the-job fatalities. Nurses, too, face significant risks of injury on the job, with 38 percent of all nurses enduring back injuries during their careers. Healthcare workers suffer nearly 600,000 needle-stick injuries each year, with potentially debilitating or fatal results for those workers who contract hepatitis or HIV as a result. Workers in shipyards and in food processing have injury rates two to four times the national average. Overexposure to respirable dust containing silica, which causes silicosis, remains a serious threat to nearly two million workers in high-risk

jobs such as abrasive blasting, foundry work, mining, stonecutting, rock drilling, quarry work, and tunneling. Coal miners continue to develop black lung disease, benefits for which now cost over $1 billion annually. Both silicosis and black lung are preventable, yet workers and their families continue to suffer from these disabling respiratory illnesses.

The most significant workplace health problem to emerge in the late twentieth century was the array of musculoskeletal disorders caused by repetitive stress. More than 600,000 workers lose workdays each year because of work-related musculoskeletal disorders, costing employers $15 to $20 billion per year in workers' compensation alone. About 60 percent of all such disorders occur in manufacturing industries or among workers engaged in jobs such as lifting patients, stocking shelves, or conducting other tasks that require significant handling of heavy material. One musculoskeletal disorder in particular—carpal tunnel syndrome—causes more days away from work, on average, than any other workplace injury, including amputations or fractures.

Work-related musculoskeletal disorders account for 34 percent of all lost-workday injuries and illnesses and for $1 out of every $3 spent on workers' compensation. Yet the National Academy of Sciences has found compelling evidence that ergonomic programs can prevent disabling injuries. Hundreds of employers have implemented ergonomics programs, protecting workers while simultaneously reducing workers' compensation costs.

Workers in small businesses experience a disproportionate number of fatalities. Although small businesses with 10 or fewer employees account for only about 15 percent of employees, 32 percent of all work-related fatalities reported to the BLS in 1998 occurred in such workplaces. By comparison, businesses with 100 or more employees accounted for approximately 45 percent of employees but experienced only 20 percent of all work-related fatalities that year. At the century's end, the risk of fatality in businesses with 10 or fewer employees was four to five times that of businesses with 100 or more employees.[2]

The situation in mining is similar. In many areas, such as the Appalachian region, small mining businesses are a main source of jobs and, consequently, a primary contributor to the local economy. However, small mines, like other small businesses, can present unique safety and health challenges. In 1998, metal and nonmetal mines employing 5 or fewer workers accounted for about 10 percent of the hours worked, yet almost one-third of metal and nonmetal mining deaths.

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Box 5.1

elaws

To help the employers and workers of America maintain healthy, safe, and fair workplaces, the Department of Labor has developed an innovative Internet-based tool called ***elaws.***

Short for Employment Laws Assistance for Workers and Small Businesses, ***elaws*** allows people to access and understand the rules and regulations that DOL enforces.

For small companies and individual employees, up-to-date regulatory information is often hard to obtain and, more frequently, complex and confusing. An ***elaws*** "advisor" explains a law or regulation, providing information tailored to an employee, employer, or enforcement perspective. Each "advisor" is a computer program capable of imitating the interaction a human expert might have with an individual by giving appropriate information based on the individual's response to questions.

Users can find ***elaws*** on the Web at http://www.dol.gov/elaws.

Changes in Work and Work Practices Bring New Risks

Regardless of the industry, occupation, or business, new technologies can create new problems as well as new solutions. Mechanization of coal mining, for example, brought higher levels of respirable dust, creating greater potential for cases of silicosis and black lung disease but fewer injuries from accidents such as mine collapses. Increased use of diesel-powered equipment in underground mines can mitigate some safety problems associated with using electric equipment but poses a host of other health questions deserving examination. Increased mechanization also increases a miner's potential for work-related hearing loss.

Workers in other settings experience analogous problems. Closed office buildings and modern cooling and ventilation systems allow for comfortable working conditions but they also contribute to indoor air quality problems ranging from Legionnaires' disease to illness caused by second-hand tobacco smoke. Computer-chip manufacturing may expose workers to many exotic chemicals whose long-term impact on workers is not yet known. These are but two examples of the health and safety issues needing attention—by employers, workers, and government—as work environments change and new technologies emerge.

Box 5.2

Cooperation: a new kind of enforcement

The collective efforts of government, employers, workers, unions, safety engineers, safety and health professional groups, trade associations, insurance companies, academia, and others are central to sustaining the safety and health success of the past and effecting continued improvements in the future. Creating partnerships among these groups is part of the strategic approach that the Department of Labor's Occupational Safety and Health Administration (OSHA) has used successfully to address workplace conditions that may endanger worker safety and health.

One such initiative in Alabama's Bayou LaBatre area shipyards led to a 47 percent reduction in eye injuries and illnesses. A Calumet City, Illinois, scrapyard operator reduced injuries, illnesses, and workers' compensation premiums by 90 percent over two years after working with OSHA. The Steel Erectors' Safety Association of Colorado saw dramatic improvements in safety and health: one member company reduced its workers' compensation costs by almost two-thirds and reduced its rate of injuries and illnesses by over 80 percent.

OSHA's Voluntary Protection Program (VPP) recognizes private companies with outstanding records in worker safety and health. VPP worksites achieve injury and illness rates as much as 60 percent lower than other firms in their industry because they implement safety and health programs—self-sustaining systems that are fully integrated into the day-to-day operations of their facility. Countless companies have succeeded with this approach, and 32 states have recognized its value by instituting some form of safety and health program provisions.

Education and outreach play an important role in protecting the American worker, in forms ranging from compliance assistance materials to help employers and workers understand new requirements, to state consultation programs, to electronic media that offer instant assistance in complying with standards. Partnership alone, however, is not enough—experience shows it must be balanced with a targeted enforcement program. Research has shown that injuries and illnesses generally decline by about 22 percent during the three years after an OSHA inspection. OSHA's current enforcement strategy is to focus on the most dangerous workplaces. The agency is also rewriting standards in "plain language" to make them easier to understand.

Bringing all of these strategic approaches to bear can reduce the number of worker injuries, illnesses, and fatalities. Each approach can help focus nationwide attention on the most prevalent types of workplace injuries and illnesses—problems such as lead and silica exposures. These approaches are also being directed at selected industries and geographic areas where there are significant risks to workers, high rates of lost workdays, and high fatality rates—industries like food processing, nursing homes, logging, shipyards, and construction.

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Workplace fatalities plummeted in the 20th century. In some cases, specific occupational diseases—such as byssinosis (brown lung disease) in the cotton textile industry—were virtually eliminated. Young workers are also safer than ever before. Cooperation among workers, employers, insurers, unions, and government has been a critical element in many of the successes in workplace protection. (See Box 5.2.) But challenges remain.

Each year sees more than 6,000 fatalities, over 6 million new injuries or diagnoses of occupational illness, and tens of thousands of deaths from occupational diseases. While new technologies can give rise to new hazards, they can also help identify problems and provide solutions. Technology has already provided the workplace safety and health effort with tools that could not have been imagined 100, 50, or even 10 years ago. Future challenges may be more complex than those confronted in the past, requiring creative approaches and vigorous effort. There is no doubt that workplaces can be made safer and more healthful for workers in all industries—if we meet the considerable challenge of fostering workplace cultures that view safety and health as important.

Societal Problems Have Become Workplace Problems

One million workers suffer violent assaults each year, according to Department of Justice statistics. In a single year, the workplace total included 615,000 simple assaults, 264,000 aggravated assaults, 79,000 robberies, and more than 51,000 rapes and sexual assaults—a level of violence that greatly exceeds that of other countries. Robberies and other crimes are a primary motive for workplace homicide, accounting for 79 percent of the approximately 1,000 violent workplace deaths that take place yearly. Sales workers, taxi drivers, and law enforcement officers are particularly at risk. About 70 law enforcement officers are killed each year in the line of duty.[3] A much greater share of women than men are victims of workplace homicide.

While violent crimes decreased in the late 1990s, the overall level of workplace violence is still high, and it will not disappear in the near future. Workers and employers will continue to seek effective protective measures. The Department of Labor has published guidelines on workplace violence

for healthcare and social-service workers and recommendations for the prevention of violence in late-night retail establishments. These recommendations adapt the generic safety program approach to these occupations and workplaces. The Department encourages employers to include workplace violence in their ongoing safety and health program efforts.

Motor vehicle accidents also claim the lives of a large number of workers. These accidents are the leading source of work-related fatalities, accounting for 24 percent of all workplace fatalities in 1998. However, employers can implement seatbelt-use policies and offer training in safe driving techniques to help mitigate this problem. Employers who have control over vehicles at a worksite can also implement effective traffic control, maintain vehicles in safe operating condition, and ensure that warning signals, such as backup alarms, are fully functional. Road construction companies can install barriers and work with local law enforcement officials to encourage enforcement of speed limits in work areas. The government can also serve as a catalyst for change. OSHA's Parsippany, New Jersey, Area Office engaged in an award-winning partnership with the New Jersey State Police, the local and international Laborers Union, and the New Jersey Department of Transportation to foster a series of activities at highway construction sites to reduce injuries and fatalities among highway construction workers.

Discrimination, Though Diminishing, Persists

As recently as 30 years ago, classified ads for employment were divided, "men wanted" in one section and "women wanted" in another. It was unusual to see women or minorities as television news anchors, and there were far fewer women and minorities in jobs as supervisors, firefighters, police officers, doctors, and college professors.

Since the passage of the Civil Rights Act of 1964, minorities and women have made real economic progress. Their wages and employment rates are up. Women are far more able to contribute to their families' incomes and have become a major force in business and political life. The black middle class is growing. Hispanics and newer immigrant populations are emerging as strong contributors to the U.S. economy. A generation of professionals now provides role models for young women and minority youths.

But the evidence is clear that discrimination and exclusion persist in the workplaces of today. In 1998 alone, more than 12,500 claims of discrimina-

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tion filed with the U.S. Equal Employment Opportunity Commission based on race/color, national origin, gender, religion, age, or disability were found to be meritorious allegations or were resolved in favor of the complaining party.[4] In addition, it is not possible to know in how many instances other attitudes, such as discrimination based on sexual orientation, have not been remedied because current law does not reach them.

Discrimination in hiring is a continuing problem, as demonstrated by "audit" studies, in which white and minority—or male and female—job seekers are given similar resumes and sent to the same set of firms to apply for a job. These studies often find that employers are less likely to interview or offer a job to a minority or female applicant.

- In one study, blacks were treated significantly worse than equally qualified whites 24 percent of the time, and Hispanics were treated worse than whites 22 percent of the time. For example, one black male "tester" asked about an ad for a sales position at a car dealership. He was told that the way to enter the business would be to start by washing cars. His white counterpart, with identical credentials, was immediately interviewed for the sales job.[5]
- Another study found that Hispanic testers received 25 percent fewer job interviews and 34 percent fewer job offers than other testers. In one glaring example of discrimination, an Hispanic tester was told that a "counter help" job at a lunch service company had been filled. Two hours later, an Anglo tester was offered the job.[6]
- In a third study, researchers sent comparably matched resumes of men and women to restaurants. In high-priced establishments, men were more than twice as likely to receive an interview and five times as likely to receive a job offer as women.[7]

Discrimination also continues in the executive suite—in hiring, promotion, business, and education decisions. According to the 1995 report of the Glass Ceiling Commission, only six-tenths of one percent of senior management positions in the nation's largest companies were held by blacks, four-tenths of a percent by Hispanics, and three-tenths of a percent by Asian Americans. Women held between three and five percent of these positions. White males made up 43 percent of the workforce but held 95 percent of the senior management jobs.

Personal Health Is Becoming a Workplace Issue

Law and custom separate work-related injuries and illnesses—those caused wholly or in part by exposures to risk on the job—from physical and

mental illness due to nonjob causes. That distinction, however, is breaking down. As new perspectives emerge, worker rights to privacy may conflict with employers' legitimate needs to be sure that workers can function competently and safely in their jobs.

Though drug and alcohol use can be considered personal health matters, their use can also affect relationships with supervisors and coworkers, absentee rates, productivity, and quality of work. They can lead, at the extreme, to workplace violence and to unsafe acts that may endanger coworkers and customers as well as the problem employee. The number of employers that subject their employees to drug and alcohol tests has increased steadily throughout the 1990s. (See Table 5.1.)

Not withstanding a slight but somewhat troubling increase in 1997, the number of workers reporting current use of illicit drugs or heavy alcohol has declined significantly since 1985. (See Tables 5.2 and 5.3.) Today, many employers recognize that by investing in intervention and treatment for employees with alcohol and drug addictions, they are able to retain qualified, trained workers who may be difficult to replace. Through its Working Partners for an Alcohol- and Drug-Free Workplace initiative, the Department encourages employers and unions to cooperate in developing policies and programs that enhance the safety of both workers and the public, provide help to employees with personal health problems, and also protect workers' rights.

Genetic testing, which may be used to determine a person's future health risks, poses concerns about potential discrimination when it is applied to employees. A variety of measures have been introduced in Congress and in state legislatures to ban genetic testing as a precondition of employment or health insurance coverage.

Workplace stress is also an emerging health issue. About 1 in 5 Americans works 49 hours or more a week. Studies indicate that three-fourths of workers believe there is more on-the-job stress than a generation ago. And researchers increasingly attribute a wide range of health effects to stress, including increased risk of cardiovascular disease, psychological disorders such as depression and burnout, gastrointestinal disorders, and workplace injuries. The impact of sleep deprivation on the workplace and society is also beginning to enter the public consciousness. Adequate sleep is important to health and necessary for alertness at work. Americans average fewer hours sleeping than they should—an average of seven hours per night on weeknights, compared to the eight hours experts say is the

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TABLE 5.1 **Percentage of employers who use drug testing, 1990–1998**

Type of testing	1990	1991	1992	1993	1994	1995	1996	1997	1998
Perform drug tests	52	63	73	78	76	78	81	74	74
Test new hires	34	48	57	65	61	63	68	64	62
Test employees	38	52	62	66	65	68	70	62	62

SOURCE: American Management Association's *Survey on Workplace Testing: Medical Testing,* 1999

TABLE 5.2 **Percentage of workers ages 18 to 49 reporting heavy alcohol use,* 1985–1997**

Employment status	1985	1988	1990	1991	1992	1993	1994	1995	1996	1997
All workers	8.5	6.5	6.8	7.6	7.0	7.0	8.3	7.5	7.4	7.7
Full-time	11.2	8.1	8.6	8.5	7.8	8.5	8.4	7.8	8.2	7.6
Part-time	7.4	7.3	6.8	6.9	6.9	6.4	7.0	6.5	5.9	6.3
Unemployed	6.9	7.8	6.4	11.1	10.7	11.5	10.8	11.1	11.1	11.7

**Heavy alcohol use is defined as drinking five or more drinks on five or more occasions during the previous 30 days*

SOURCE: Substance Abuse and Mental Health Services Administration, *Results from 1997 Household Survey on Drug Abuse*

TABLE 5.3 **Percentage of workers ages 18 to 49 reporting current illicit drug use, 1985–1997**

Employment status	1985	1988	1990	1991	1992	1993	1994	1995	1996	1997
All workers	16.5	10.2	8.9	8.9	8.0	8.1	8.4	7.9	8.4	8.6
Full-time	17.5	10.5	8.6	7.9	7.4	7.7	7.6	6.8	7.7	7.7
Part-time	15.8	12.1	10.6	10.8	8.7	10.6	9.0	10.2	9.7	9.3
Unemployed	27.6	20.5	15.5	18.7	16.6	14.0	16.2	15.7	15.1	16.5

SOURCE: Substance Abuse and Mental Health Services Administration, *Results from 1997 Household Survey on Drug Abuse*

average need. An astounding 37 percent of adults report being so sleepy during the day that it interferes with their daily activities. Estimates of the annual costs of sleep deprivation—from lost productivity, absenteeism, illness, and injury—range up to $18 billion. In addition to those workers who do not get enough sleep due to the demands of balancing work and family,

20 percent of American employees work a night shift and must sleep when most human activity and interaction takes place.[8]

Because healthy employees are more productive employees, many employers have begun actively to promote personal health in the workplace. Wellness programs of varying scope are common in large firms and in some smaller ones. Other health initiatives—smoking cessation campaigns, health risk assessments, and employee assistance programs to deal with personal stress as well as substance abuse problems—can be found in 81 percent of workplaces.[9] However, employees in small workplaces are considerably less likely to have health promotion programs available to them than are employees in large workplaces.

The Future

Workplaces are safer and healthier than ever before, but both the intractable health and safety hazards of yesterday and the unknowable hazards of tomorrow will require continued vigilance and cooperation among workers, employers, unions, and governments. Preventing and resolving old problems—and recognizing new ones early on—will also require new efforts in research and development. New technologies, which can resolve many workplace health and safety concerns, can also create them. Some solutions, however, are simple ones: changing the way we work can help reduce many workplace injuries and illnesses, and training can create awareness to help recognize and avoid potential workplace hazards.

Workplaces are fairer than ever before, but here, too, much remains to be done. While women and minorities have made many advances—in educational attainment, employment, and earnings—there are still workplaces where they are not welcome, including many executive suites. Tomorrow's work will place even more of a premium on workers with education and skills. Employers can ill afford to shut out high performers based on race or color, disability, national origin, gender, religion, or age. What is right and legal—equality of workplace opportunity—is increasingly an economic necessity.

Workers deserve—and employers benefit from—safe, healthful, fair, and inclusive workplaces. With continued attention from and cooperation among policymakers, workers, unions, and employers, we can build on the considerable progress of the last three decades toward a future where workplaces are safer and workers are hired, developed, and promoted based solely on their abilities.

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6 Technology

The rapid computerization and networking of American businesses, industries, and homes has been called a "microprocessor revolution." That revolution is fundamentally transforming the way—and the speed with which—people think, connect, collaborate, design and build, locate resources, manipulate tools, conduct research, analyze and forecast, reach markets, present themselves and their wares, move and track products, make transactions—in short, do business.

Technology Is Transforming the U.S. Economy

Advances in the computer industry, coupled with those in telecommunications, have created the new information technology, or IT, industry and inaugurated an information age. By 2006, nearly half of all U.S. workers will be employed in industries that produce or intensively use information technology, products, and services, according to U.S. Department of Commerce projections.[1]

The workplace and workforce impacts of these technological changes have been so pervasive, so dramatic in size and speed, as to be hard to describe. A brief look backward, however, is illustrative.

Starting in the 1950s, an entirely new industry was established, led by the large "mainframe" computer companies such as IBM, RCA, Honeywell, and Univac. These companies opened a host of new jobs producing, maintaining, and servicing computer systems. Computer programmers, keypunch operators, computer service technicians, and computer sales personnel were soon in demand by the tens of thousands—good jobs to support a growing industry.

Yet in less than fifty years, only a relative handful of the jobs created in that initial wave of computerization still exist, held by workers servicing older systems still in operation. In their wake have come millions of still-newer jobs in an ever-widening variety of computer applications created to capitalize on the capacities of hardware and software systems. The life span of a personal computer provides one illustration of the diminishing time between introduction and "obsolescence" of new technologies. The average life of a personal computer, or PC, decreased from 4 1/2 years in 1992 to just over 3 years in 1999, and is predicted to be only 2 years by 2007.[2]

The Information Technology Industry Is Evolving Rapidly

To understand the dynamics of the transformation underway, it is important to grasp both the scope and the speed of this revolution. Its roots are indeed very recent, beginning with the widespread introduction of large mainframe computers in the 1950s and 1960s, followed by steady advances in computing power that permitted a decrease in their physical size. The introduction and dramatic growth of personal computers in the 1980s took even the computer industry by surprise, threatening the mainframe operations of the larger companies. Computers moved into millions of American homes.

Connecting personal computers so that people throughout an organization could communicate expanded the possibilities for these tools. Once such local area networks, or LANs, were established, it was a relatively short step to linking an individual computer or a whole network with remote users over telephone lines, using a modem to transmit the signal. Access by personal computer to information in remote mainframes, bulletin boards, and other networks significantly enhanced the utility and power of these networks.

When computers needed to "talk" to one another, incompatibilities among computer systems became a problem, which in turn was addressed by efforts to standardize file formats, creating a common language. This language—HTML, for hypertext markup language—became the core of the Internet. Widespread acceptance of the Internet brought together the power of computing with a standardized protocol, enabling millions of computers to communicate with one another. An estimated 64 million

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Box 6.1

Computer power

Moore's Law (named for the founder of Intel Corporation) holds that the processing power of microchips doubles every 18 months. The costs of computing are falling sharply, dropping by nearly 25 percent per year,[5] underpinning the growing importance of technology in the workplace, the development of the Internet, and the reduction in communication costs that is a factor in the globalization of the economy.

The market for under-$1,000 personal computers now makes up half of all U.S. computer sales. As a result, half of U.S. homes have PCs.[6] In 1997, the most powerful PCs on Business Week's yearly "best buys" list were priced over $3,000; in 1998, only one PC on the list was that expensive. A standard PC in 1997 came with 32 megabytes of memory and a 4-gigabyte hard drive; in 1998, a similarly priced model came with twice the memory and a zip drive or a DVD drive as well.

The future of computers may extend to the realm of what was previously only science fiction. Noted computer scientist Ray Kurzweil predicts that by 2019, a $1,000 computer (in 1999 dollars) will be able to perform 20 million billion calculations per second and will be equivalent in sophistication to the human brain.[7]

Improvements in computer technology signify that computers will be an even stronger presence in the American workplace in the future.

Americans go online every month.[3] The Internet generated an estimated $300 billion in revenues in 1998, approaching the size of the automobile industry.[4]

The power of the Internet and the increasing power of computers (see Box 6.1), which allow for digitizing various forms of communication from voice to video, are driving the information technology and communications industries toward convergence. Television, voice communication, the Internet, and other forms of communication are all moving towards common frameworks based on digital systems. With these common frameworks, all such forms of information can be transmitted on common distribution systems, processed by common microprocessor technologies, and stored in common digital filing structures.

The Technological Revolution Spreads

The growth and reach of the Internet enables virtually free communication among a large number of people. In 1995, there were only 22 million

Internet users in the United States. By 1998, the figure had quadrupled to 88 million. Estimates are for 110 million users in 1999 and 133 million by the year 2000.[8]

It took only seven years for the Internet to be adopted by 30 percent of Americans, compared to seventeen years for television and thirty-eight years for the telephone.[9] This dramatic growth is continuing as the information available on the Internet is growing rapidly and its utility to users is increasing. A novelty in the mid-1990s, the Web has become a household word and an indispensable tool of industry.

Internet access has not grown evenly, however. High-income households are twenty times as likely to be connected to the Internet as those at the lowest income level. Black and Hispanic households are about two-fifths as likely to have home Internet access as are white households, and those in rural areas lag behind those in urban areas. But at least some of these differences are diminishing. The difference in access between blacks and whites, for example, is narrowing for those with incomes at or above $75,000.[10] In 1999, 40 percent of blacks age 18 or older used the Internet at home or at work, compared to 55 percent of the general population (including blacks).[11]

The computer and IT revolutions have changed virtually every industry in the economy. Numerous examples illustrate the point:

- A manufacturing plant can be operated by a handful of technicians controlling robotic systems.
- State-of-the-art inventory systems can supply needed parts "just in time" for assembly.
- New jobs have been created in airfreight and delivery systems to service such just-in-time inventory operations.
- Handheld mobile phones have become commonplace, and digital phone systems will soon be able to reach anyone in the world via satellite.

Businesses have found ways to reduce the costs of carrying large inventories of intermediate parts and finished goods through computer-managed inventories and just-in-time manufacturing and servicing. Barcode scanners like those at store checkout counters are among the innovations that have helped businesses meet consumer demand more effectively by more closely monitoring inventories, reducing lead time for delivery of goods, and reducing inventories.

Leading manufacturers have developed computer links to their suppliers and customers. Their suppliers follow progress on the production line via

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computer hookup and can plan on shipping parts and materials to the right place at the right time, minimizing inventories and downtime. Their customers have computer access to the latest production status and thus know precisely when to expect delivery. A major airplane manufacturer, for example, maintains a parts-distribution Web page that greatly speeds the pace at which planes are serviced. Locating a part used to take five to ten hours, often forcing cancellation of a flight; parts can now be located within minutes. Diesel-engine manufacturers link via computer to the service records of the truck engines they have sold, permitting them to predict more precisely the demand for replacement engines. Global manufacturing companies link their design centers in different countries to create international design teams.

The technological revolution has also launched entirely new industries, such as biotechnology. Literally hundreds of new companies have emerged in areas unheard of a decade ago. Advances in virology, cancer research, and neurology are being made as a direct result of advances in computational and information systems. Researchers can now use genetic mapping systems to locate the genes responsible for a variety of hereditary diseases. Emerging industries such as environmental technology benefit from applications ranging from remote sensing systems to biological agents that eat harmful chemicals or waste—applications made possible through advances in computer and information technologies.

The growth of information technology has also had its darker side. Fighting computer viruses like the Melissa virus and the Explore.zip worm cost businesses worldwide $7.6 billion in the first half of 1999.[12] The increasing accessibility of data has also raised privacy concerns. The new technology has made it very easy to collect personal information, such as medical records, and make it available to a large number of users.

Technology and Job Creation

Employment patterns in the computer-manufacturing sector illustrate the complex impact of technological change on the workforce. Computer-manufacturing jobs skyrocketed until 1984 as American producers dominated world production of all kinds of computers. Between the appearance of the first PCs in the mid-1970s and 1983, computer industry jobs in the United States grew by nearly 80 percent, while total U.S. manufacturing

Box 6.2

"Web"ster's dictionary for the twenty-first century

browser

e-commerce

e-mail

hypertext markup language (HTML)

HTML tags

Internet

Java

search engine

simple mail transfer protocol (SMTP)

stub networks

uniform resource locator (URL)

virtual server

World Wide Web (WWW)

Web page

Web servers

Web site

employment grew by only 4 percent.[13] This dramatic growth was interrupted, however, by the entry of foreign computer producers into U.S. markets, which contributed to a 26 percent drop in U.S. computer employment between 1983 and 1994.[14]

That drop in computer-production jobs, however, was more than offset by growth in computer-related jobs for sales clerks, software designers, and LAN operators. This dynamic characterizes the rapidly evolving industry: significant growth in new jobs and activities masks the destruction of older jobs. This "churning" in employment often goes unnoticed. Downsizing, rightsizing, efficiency mergers, and buyouts are facts of life in this industry and throughout the new economy.

With the continued rapid evolution of technology, the cycle of job growth, destruction, and creation will also continue into the foreseeable future. The

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Box 6.3

Jobs of yesterday . . . and tomorrow

Yesterday's jobs

- keypunch operators
- typewriter repair technicians
- mechanical calculating machine repair technicians
- word-processing machine repair technicians
- COBOL and FORTRAN instructors
- mimeograph production technicians

Tomorrow's jobs

- Webmasters
- LAN operators
- help-desk operators
- knowledge engineers
- CAD/CAM operators
- desktop publishing operators

dynamics of the change may be less obvious in the future but much more widespread. Pick up any newspaper and read a story about the demand for high-tech jobs, a demand reflected in the classified ads and their numerous listings for computer specialists, programmers, database administrators, Web designers, and so on. The Washington Post classifieds for one day in May 1999, for example, showed job openings for Visual Basic, Java, and CGI programmers, help-desk administrators, e-cable systems designers, GIS analysts, and call-routing specialists—all highly technical jobs, often requiring years of training and experience to qualify.

Yet these jobs often require much more than the latest high-tech skills. What may not show up in the text of a classified ad is that the content of these high-tech jobs is changing. More employers want computer specialists to be knowledgeable about the industry their business is in, in addition to being technically skilled.

Jobs for database administrators, for example, are among a cluster of related occupations that are projected to increase by 118 percent by 2006.

Many employers require their database administrators to have a bachelor's degree in computer science, but for some employers that will not be enough. The database administrator for a publisher of electronic newsletters on health care or engineering may also need to have strong writing and editing skills and special knowledge of those industries.

Even workers in "nontech" jobs are discovering that the technology revolution has not passed them by. In fact, it is rare to find a job that does not require some knowledge of computers or computer-based systems. On any given day, newspaper classifieds in cities are loaded with help-wanted ads that seem to be designed for workers with little or no experience with technology:

- Administrative help is needed to reorganize an office.
- Experienced auto mechanics are wanted by car dealerships and service stations.
- Receptionists are needed to handle busy phone lines.
- A travel agency needs an experienced "leisure agent."

What all of these jobs have in common is the high level of technological skills needed to perform them. Large or small, employers are no longer satisfied with an office worker who is "good with figures" or "detail oriented." Administrative staff must now be familiar with word-processing suites, accounting and billing software, human resources packages that are computer-based, and 12- to 24-line phone systems that provide call forwarding, voicemail, and conference bridges.

"Old school" auto mechanics can forget about getting a job if they lack the skills to use computer-based diagnostic tools now standard in repair shops. And travel agents who cannot adroitly make travel arrangements using an automated system may soon find themselves relegated to hand-delivering airline tickets. Even doctors and lawyers use technology every day for research, record keeping, or simply to communicate with colleagues and clients.

As the tools of each trade become more sophisticated, many more occupations will have "tech" elements. Most workers will need basic computer skills to enter their chosen occupations and additional specialized training in field-specific applications to advance. It will indeed be a world that rewards lifelong learning.

The overall employment picture in high-tech industries is extremely bright. High technology has added over one million jobs to the U.S.

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Box 6.4

Veterans lead the way

Every year, almost 200,000 service members leave the military and join over 15 million other veterans in the civilian labor force—all with a host of skills. These veterans stand ready and willing to meet the challenges and demands of working in the twenty-first century's rapidly changing, global economy.

With the help of the Veterans' Employment and Training Service, veterans have formed innovative labor-management partnerships to place qualified veterans in high-tech apprenticeship programs or directly into jobs. Combining classroom and on-the-job training, these apprenticeship programs help veterans qualify in many high-tech jobs, including computer programming and systems analysis, computer and telecommunications network installation, and high- and low-voltage utility system repair. These programs can be used as models for other training programs targeting older workers, youths, workers who have lost their jobs because of technological change, and others.

economy since 1993.[15] Real average wages in these industries increased 19 percent from 1990 to 1997, compared with a 5 percent average increase across the private sector. The average high-tech job today pays 78 percent more than the private-sector average.[16]

Technology Is Revolutionizing the Way We Work

In the 20th century, mass-production occupations were steadily replaced by office-worker and service-provider occupations. Indeed, virtually all of the jobs that were lost in goods production and distribution since 1969 have been offset by office jobs.[17] Rather than industrial machinery, these workers' tools are telephones, fax machines, and personal computers. With the rapid introduction of mobile phones, laptops, e-mail, and the Internet, the traditional time and space requirements of office workers are no longer the rigid constraints of the past. In particular, the growth in computer applications and the Internet has enormous potential to help lower barriers to job opportunity for workers with disabilities.

A beginning trend in the increased use of flextime and flexiplace followed the lifting of traditional constraints. Only a fraction of employers currently avail themselves of such arrangements, but new technologies that permit this flexibility have been introduced relatively recently: access to the

Box 6.5

Going to the office is not what it used to be

As technology enables workers to decentralize their work, clocking "in" and "out" will no longer be necessary. Workers may rarely be in the office, and their working hours may bear little resemblance to the traditional nine-to-five schedule. What might the workplace look like in the year 2020?

wireless computers

video-mail

videophones

Video-mail, complete with sound and an image of the sender, will pop up on a wireless computer screen that the worker can access anywhere.

Videophones will provide "real time" images along with conversation.

Meetings, conferences, and seminars that include participants in different locations worldwide will be conducted via satellite.

Though office buildings will not disappear, the space inside them will be reconfigured to support a workforce that comes in primarily to attend meetings and retrieve data. The office of the future will be a place for focused work that requires true collaboration. It will also be a key site for socializing and cementing the relationships that keep an organization going.

SOURCE: Adapted from Susan Paynter, "Workplace 2020: What's in Store for Working Mothers in the Brave New Business World of Tomorrow," in *Working Woman,* May 1999.

Internet, widespread use of e-mail, and the prevalence of cellular and digital phones all occurred in the latter half of the 1990s. As the popularity of these tools grew, their costs decreased. Prevalence has demystified their use, making them ordinary implements for conducting business.

Because the new technology is flexible, the workplace of the future will see a substantial increase in the number of workers who work from their homes or some location other than the office, though the overall proportion of workers who do so will remain small in the near future.

Assistive technologies are opening up the workplace to individuals with disabilities. Character readers and voice recognition devices, for example, help workers with visual impairments. (See Box 6.6.) "Smart" prostheses employing microprocessors help their wearers to perform workplace tasks. Communications and computers make possible accommodations such as

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home-based work, flexible schedules, and job sharing. Home-based customer–call-in centers are examples of businesses that, because of advances in technology, have been able to tap the abilities of workers with disabilities.

New flexibility in the workplace presents a number of opportunities and challenges. Telecommuting and flexiplace programs will reduce commuting time—creating more family time—allowing workers to live in areas far from their employers' offices. These new work options particularly benefit workers facing child-rearing and eldercare responsibilities and workers with disabilities. But the flexibility also opens up the possibility of exploitation and abuse if employers require homework above and beyond normal working hours or establish modern home sweatshops. Workers physically isolated from their coworkers and supervisor may also encounter a kind of discrimination—in promotions or other workplace opportunities—based on lack of "face time" with senior officials.

Changing Relationships, Changing Risk, Changing Regulation

The potential for employer abuse of flexible workplace arrangements raises the broader issue of whether present laws are adequate for new workplaces. The Department of Labor administers approximately 180 labor laws. Other agencies, such as the Equal Employment Opportunity Commission and the National Labor Relations Board, enforce other fundamental worker-protection laws. By and large, these laws were enacted when the most prevalent workplace model involved a stable employer–employee relationship, with the typical employee working full-time, but new workplace technologies are changing this model.

Changing technology also has potential impact on other workplace issues, such as the safety and health of workers. Technology can cause ergonomic problems—and solve them. (See Box 6.7.) The manufacture of computer chips may expose workers to new chemicals, whose hazards are not yet understood. And enforcing job safety and health laws may be difficult when offices are located in private homes.

New technologies might also affect worker rights in new ways. Genetic testing of current or prospective employees has raised concern about new discriminatory practices such as screening out persons who may incur high

Box 6.6

Workplace technology for people with disabilities

Most people with significant disabilities are not employed, despite the fact that many have relevant labor-market skills and the booming economy of the 1990s has left employers facing a severe labor shortage. Technology is bringing more people with disabilities into the workplace by removing at least some of the physical and communication barriers that have historically forced isolation and segregation.

To better meet the employment needs of its agencies and of people with disabilities, as well as to further its role as a model employer, the federal government has made significant investments in providing the employment supports necessary to hire and maintain employees with disabilities. For example, the Computer/Electronic Accommodations Program, or CAP, established by the U.S. Department of Defense in 1990, helps expand employment opportunity for persons with disabilities by providing assistive technology to employees and managers in the Department of Defense and other federal agencies. Assistive technologies are technical accommodations, including large-screen monitors, voice-recognition software, alternative keyboards, Braille displays and printers, and other tools, that make computer and telecommunications systems accessible to employees with disabilities.[18] CAP provides a number of other disability-related services. The program funds sign-language interpreters, readers, and personal assistants for employees with disabilities who need to attend long-term training; provides accurate and timely needs assessments; and hosts the CAP Technology Evaluation Center, or CAPTEC, where employees and their managers can explore alternative accommodations at workstations equipped with a wide variety of assistive technologies. People seeking solutions to accessibility problems can visit CAPTEC to see and compare the types of equipment available. Thus customers are assured that they purchase the product most effective at helping the employee carry out his or her job.

medical costs. In 1998, the American Management Association surveyed firms on the use of genetic testing and found that fewer than one percent were performing such tests.[19] However, the fact that such tests are being performed at all raises questions regarding potential abuses—questions that need to be addressed early on.

Of more immediate concern is the issue of workplace privacy. Forty-five percent of major U.S. firms—according to a 1999 survey by the American Management Association—report that they record and review employees' communications and activities on the job, including telephone calls, e-mail, and computer files. This represents a 10 percent increase since 1997. Firms cited cost control, legal concerns, and performance reviews as reasons for these practices.[20] As technology provides more sophisticated methods of monitoring and surveillance, privacy issues may arise more often.

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Box 6.7

Ergonomics and the workplace

Technology is a powerful influence in the workplace: it both creates and solves problems.

Musculoskeletal disorders—"ergonomic" problems—arise when equipment and jobs are designed without sufficient regard for the physical capabilities of workers. Examples are familiar: back injuries caused by heavy lifting; shoulder, elbow, and wrist injuries due to excessive repetitive motion; and muscle strain when a job requires excessive force or working for long periods in awkward postures, such as bending from the waist or working with arms raised above the head. Even physical tasks that seem to require little force, such as keyboard data entry, carry a risk of injury to the wrists, such as carpal tunnel syndrome. In the past, many workers simply lost their jobs when these injuries occurred—and many still do.

While technology may cause some of these problems, it is also a source of solutions. Industries have developed new equipment and redesigned older tools to reduce or eliminate the sources of ergonomic problems. Workers in the meat-packing industry, for example, can now use power-assisted devices, reducing the effort required to do their jobs. Their hand tools also have been improved to reduce vibration and require less force. Improved lift devices reduce or eliminate their need to lift and carry heavy loads.

However, technology is not simply tools and hardware; management is also an important dimension. Good management can identify existing and potential hazards and seek out preventive measures that will avoid injuries—and the costs and pain they bring. Workplace ergonomic programs are one example of management technology in action. In these programs, workers and managers together identify hazards, develop and test solutions, train workers, and evaluate and report on their efforts. In workplaces with unions, a joint labor-management committee can handle many of these functions. Good programs also feature appropriate medical management to ensure that small, temporary problems do not become large, permanent ones. And these programs may operate within existing management and safety programs to improve their efficiency and cost-effectiveness.

BETTER, FASTER, MORE ACCESSIBLE INFORMATION

Technology can also have a positive impact. Computer-based technology has sped up and broadened the access to information for workers and businesses. The Department of Labor has funded a Web site to help bring together job seekers and employers in a virtual labor market. (See Box 6.8.) The site provides information electronically on job openings, job seekers, education and training opportunities, and career counseling.

Employers spent $105 billion on online recruiting in 1998. Such spending is expected to increase more than tenfold by 2008. The power of online job hunting is exemplified at Cisco Systems, where two out of three new hires

Box 6.8

Creating a virtual electronic labor market—America's Career Kit

With the introduction of America's Job Bank, the Department of Labor laid the foundation for a virtual labor market—America's Career Kit. America's Job Bank is a "demand side" Web site where employers have already listed more than one million job openings which can be viewed daily by thousands of job seekers. Registered employers can now upload new job openings to the site daily, permitting them to keep their requirements up-to-date.

The second building block of the virtual labor market is America's Talent Bank, a Web site where job seekers can post their resumes. This "supply side" site, an important companion to the Job Bank, currently hosts 400,000 resumes.

The third building block—America's Career InfoNet—provides information on labor markets and career paths. This Web site provides information on which occupations are likely to increase in demand in the future and what skills they will require. Links to information on local labor markets permit the user to tailor a job search to opportunities in a particular region or locale.

America's Learning Exchange provides information on training opportunities available to those seeking to upgrade their skills or to obtain new ones. Once a user has explored the Career InfoNet and decided upon an occupation, he or she can use the Learning Exchange to identify training needs and nearby training sources.

Finally, the Department continues to develop O*NET, the Occupational Information Network, to provide a common language about skills linking these America's Career Kit sites.

An employer listing a job on America's Job Bank is seeking a worker with particular skills. Similarly, a worker posting a resume on America's Talent Bank is trying to describe to prospective employers the skills that he or she has to offer. America's Career InfoNet and America's Learning Exchange focus on the skills needed for various occupations and on the training needed to acquire those skills. America's Career Kit is a set of tools that define the relationship between and among occupations, careers, and training, using the common denominator of skills. These tools will help match job seekers with jobs and help workers determine what skills they need and where to go for training.

apply online. The process shaves 68 days off Cisco's typical hiring cycle.[21] Workers, too, have benefited. One Silicon Valley worker lost her high-tech job of seven years just before Christmas. She told her incredulous husband, "The Internet is going to find me a job while I'm sleeping," and posted her resume on 30 Internet job boards. Within the month, she had received 60 inquiries. She then accepted a senior project-manager position, a post better than the one she had lost.

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Employers will also be able to train their workers more efficiently and effectively with new learning technologies. Technology-based training can accommodate differences in employee skill levels, in learning style and pace, and in family demands. The Federal Technology Training Initiative (FTTI) is a collaborative effort bringing together federal trainers, educators, and information technology experts to transform the way federal employees will learn in the twenty-first century. Partnerships have already been forged among key federal agencies, state and local governments, private industry, and universities. These partnerships are developing innovative business models that can spur investment in high-quality, technology-based instructional materials and methods.

Crossing the Border: Globalization of the American Economy

The 1990s saw a combination of rapid technological change and widespread globalization, in part because the two processes are intertwined. The technologies underlying the Internet and telecommunications have increased the flow of information between countries, speeding the globalization process. At the same time, the spread of free markets has promoted greater competition worldwide, creating strong incentives for domestic producers to adopt new technologies.

Innovation and the ability of industries and companies to harness and apply technological innovation effectively will provide the edge in this new competitive framework. Clearly, competitive players in the global economy will need to staff their workplaces with technologically proficient workers.

LABOR MARKET EFFECTS OF GLOBALIZATION

The 1990s will be remembered for the spread of free markets. The fall of the Iron Curtain in 1989 has resulted in the institution of free-market economic regimes, with varying degrees of success, in virtually all of the countries of the former Soviet Union, as well as Eastern European countries and even China. Concurrently, many less-developed countries in Asia and Latin America, at the urging of the international financial community, have

reduced their barriers to free-capital markets. The result has been the rapid expansion of trade and the movement of capital and information between countries.

In the 1990s, the expansion of international trade was one of the major goals of U.S. economic policy. In the ten years ending in 1997, U.S. exports grew over 140 percent and accounted for one-third of total economic growth. The economic health and security of American workers is increasingly tied to the health of the global economy. Ensuring quality jobs for American workers requires building a stable, secure, and prosperous international economic system in which all workers can achieve higher wages and greater economic security.

Improving labor conditions and securing workers' rights around the world are keys to creating new markets for exports, broadbased prosperity, sustainable economic growth, and stronger democracies. Building sound safety nets and implementing core labor standards help ensure minimum working conditions. Indeed, expanding trade and securing basic worker rights can be mutually reinforcing goals.

Many countries in the developing world lack the resources or know-how to implement core labor standards. An even greater number lack the ability to create mechanisms that could improve working conditions, help dislocated workers find new jobs and skills, and help women who have been locked out of the economic mainstream. These countries are increasingly turning to international organizations and to the developed nations of the world for help in raising work standards by increasing the institutional capacities of their labor ministries and the industrial relations institutions that help resolve disputes through democratic means. As economic globalization and rapid technological change dramatically alter the world of work, the International Labour Organisation (ILO) has the preeminent international role to meet this challenge. The ILO is focusing its efforts on promoting fundamental principles and rights at work, improving living and working conditions, and creating employment.

CORE LABOR STANDARDS

In June 1998, the International Labour Conference adopted the ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up. The Declaration promotes adherence to five fundamental principles which have come to be known collectively as core labor standards—the

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TABLE 6.1 **U.S. trade flows: imports and exports of goods and services (in U.S. dollars)**

	Imports		Exports	
	Goods*	Services**	Goods*	Services**
Canada	$175 billion	$14 billion	$156 billion	$21 billion
European Union	$176 billion	$54 billion	$149 billion	$75 billion
Africa	$ 16 billion	$ 3 billion	$ 11 billion	$ 4 billion
South and Central America	$ 50 billion	$22 billion	$ 63 billion	$34 billion
Mexico	$ 95 billion	$13 billion	$ 79 billion	$ 9 billion
Pacific Rim	$329 billion	$36 billion	$167 billion	$70 billion

* 1998 data
** 1997 data
SOURCE: *U.S. Bureau of Census*

right to freedom of association, the right to organize and bargain collectively, the elimination of forced or compulsory labor, the effective abolition of child labor, and the elimination of discrimination in employment. The ILO will hold all member states accountable for these standards.

Unfortunately, there are many places around the world where the basic worker protections are not guaranteed. In some countries facing civil conflicts, such as Colombia, trade union leaders have been the victims of violence. In China and Sudan, there are widespread violations of basic trade union rights, and labor activists face the threat of arrest. In Burma, there is a total absence of any rights in the workplace, and forced labor is imposed on the civilian population by military authorities. In Afghanistan, women and girls may not go to school or work outside the home. And, worldwide, there are an estimated 250 million children between the ages of 5 and 14 who work—approximately 120 million full-time—and tens of millions of them work under deplorable conditions.[22]

In June 1999, the ILO unanimously adopted a new convention on the worst forms of child labor. The convention establishes a universally recognized international standard for protection of children against forced or indentured labor, including forced or compulsory recruitment of children for use in armed conflicts, child prostitution or pornography, drug traffick-

ing, and other work likely to harm the health, safety, or morals of children. This new convention will augment efforts by the ILO's International Program on the Elimination of Child Labor (IPEC). IPEC develops region-, country-, and industry-specific projects targeting situations where children work in exploitative or dangerous conditions. The United States became the world's largest donor to IPEC in 1999, when U.S. funding for international child labor activities, including some $30 million a year for IPEC, was increased tenfold.

U.S. labor-market strategies must be developed in the context of increasing global market integration, since globalization will continue to have significant economic and social consequences for U.S. workers. Questions about how we improve the lives of working people, how we make sure that prosperity is broadly shared, and how we ensure that workers have the tools needed to manage change must be answered.

International trade benefits workers, consumers, and producers in the countries involved—through lower consumer prices, more efficient production of goods and services, and higher economic growth. Although the gains of trade are widely distributed, the losses are concentrated in import-competing sectors that, without protection, are no longer competitive. Those industries affected tend to be concentrated in specific geographic areas. Some evidence shows that imports, together with mechanization, have contributed to job loss in manufacturing industries such as textiles/apparel and steel.[23] However, these job losses tend to be offset by job and income growth in other industries.

International trade seems to contribute to job growth in sectors where the United States exports heavily. In many durable goods industries—such as industrial machinery, electronics products, and transportation equipment—exports account for large parts of total production and employment. Overall employment in these industries has generally risen since 1993. International trade probably has little effect on overall unemployment rates in the United States since the U.S. labor market is likely flexible enough to adjust to these kinds of sector shifts and to generate low unemployment rates over the long term.

While U.S. consumers benefit from the lower product prices generated by international trade, at least some U.S. workers, companies, and communities are hurt, particularly those workers who permanently lose their jobs

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TABLE 6.2 **Five industries in which exports account for a high percentage of employment, 1998**

Industry	Percent of employment tied to exports
Engines and turbines	47
Aerospace	44
Electronic components and accessories	44
Metal mining	42
Water transportation	41

SOURCE: *Unpublished data from the Bureau of Labor Statistics*

and those companies that go out of business because of imports. To be sure, about one in four displaced workers is in manufacturing,[24] but international trade accounts for only a fraction of that.

Some Americans fear that international trade will cause a "race to the bottom," in which competition for jobs with the lowest-wage countries will lead to wage reductions around the world. This is a legitimate concern but unlikely to be a real threat. In fact, the contrary appears to be true. Since the trade agreements of the 1990s, U.S. wage levels ended a twenty-year period of stagnation. Americans are once again experiencing real wage gains. Countries with very low wages generally have low-skilled workforces and very low levels of productivity. Employers who require skilled workforces are, therefore, discouraged from locating there. Furthermore, countries such as South Korea, Taiwan, and others in East Asia that have succeeded in attracting employers from the United States and Europe generally experience rapidly rising wages, thus narrowing the wage gap between their workers and U.S. workers. Finally, the international labor standards described above are an important component of a fair-trade strategy, ensuring that workers around the globe share in the gains of international trade.

The Future

Rapid changes in technology are expected to continue—as is the resulting widespread impact on industries, businesses, and workers. These technological changes will further alter how products and services are made and delivered and will continue to affect the workplaces in which they are conceived, sold, and produced. The workforce of the future will need to adapt to the rapid pace of technological change by continuing to upgrade their skills. The importance of lifelong learning cannot be overestimated.

Some workers may lose their jobs as a result of changes in trade patterns. The proper public policy response to such job loss is not protectionism, but rather assisting individual workers to adjust to labor-market changes caused by increased trade and globalization. The Trade Adjustment Assistance Program and the North American Free Trade Agreement Transitional Adjustment Assistance Program, both administered by the Department of Labor, offer a comprehensive array of income support, retraining, and reemployment services to workers who lose their jobs because of international trade. Additional assistance to dislocated workers is available through the Job Training Partnership Act, which is being replaced by the Workforce Investment Act. Job search allowances may also be provided to workers seeking suitable employment outside their normal commuting area and relocation allowances may help defray moving expenses should they find employment in another part of the country.

More broadly, policies to prevent job loss from international trade or to facilitate the transition of affected workers to new jobs continue to be important. Ensuring fair and open trade among countries must remain a part of this policy package. Policies that encourage more private sector training of workers before they lose their jobs might also be an important part of a job-loss-prevention strategy.

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7 Implications of Workplace Change

New technology and growing global trade have changed the U.S. economy's mix of jobs and industries. Computers have revolutionized work and workplaces and raised the skill requirements for many jobs. Employers' need for greater workforce flexibility, coupled with efforts to hold down benefit costs, will increase demand for nontraditional workers. This chapter examines the effects of these changes on American workers.

Employers Are Demanding Higher Skills

Demand for higher-skilled employees is a 50-year trend that has become increasingly important. Where strength and manual dexterity used to be enough to ensure employment and a comfortable standard of living, more jobs now and in the future will require verbal and mathematical, as well as organizational and interpersonal, skills. Emerging technologies, globalization, and the information revolution are also increasing demand for high-tech skills. Workers welcome the increasing number of new job opportunities available in a broad spectrum of industries. The want ads, clamoring for workers in the information technology, communications, and service industries, reflect both the increased opportunities for workers and the increased need for up-to-date skills. American workers and businesses are responding by investing in more education and training.

In the midst of the creation of these new high-tech jobs, most current jobs will endure, albeit in altered form. Skills will need updating as technology introduces new ways of completing age-old tasks. For example, many class-

room teachers will continue to stand before their students, while some will appear by video or satellite hook-up and answer student questions at night via e-mail. Editors will still work their magic on the written word, but many will do so from their homes or anywhere a modem is available. The fundamental skills used by these workers will endure but they will also need new skills to function effectively. There are few working Americans who will not face the need for supplementary skills to remain competitive in their existing jobs.

THE CHANGING SKILL CONTENT OF JOBS

Skill requirements have increased for many jobs in the U.S. economy, but a closer examination reveals a more complex relationship between technology and job content. Consider the change in machine shops from manually-operated machine tools, such as lathes and drilling machines, to computer-programmed machine tools. Manual operation required skill in reading gauges and other measurement devices, as well as manual dexterity acquired through relatively long periods of training and doing. Contrast this with the requirements for users of newer, computer-programmed machine tools. Newer machine tools require much less manual dexterity, but they demand computer literacy and perhaps some programming—a very different skills package.

TABLE 7.1 **Employment by major occupational group, 1986, 1996, and projected 2006** ***(numbers in thousands of jobs)***

Occupational group	Employment						Change			
	Number			Percent distribution			Number		Percent	
	1986	1996	2006	1986	1996	2006	1986–96	1996–2006	1986–96	1996–2006
Total, all occupations	111,375	132,353	150,927	100.0	100.0	100.0	20,978	18,574	18.8	14.0
Executive, administrative, and managerial	10,568	13,542	15,866	9.5	10.2	10.5	2,974	2,324	28.1	17.2
Professional specialty	13,589	18,173	22,998	12.2	13.7	15.2	4,584	4,826	33.7	26.6
Technicians and related support	3,724	4,618	5,558	3.3	3.5	3.7	894	940	24.0	20.4
Marketing and sales	11,496	14,633	16,897	10.3	11.1	11.2	3,137	2,264	27.3	15.5
Administrative support, including clerical	20,871	24,019	25,825	18.7	18.1	17.1	3,147	1,806	15.1	7.5
Service	17,427	21,294	25,147	15.6	16.1	16.7	3,867	3,853	22.2	18.1
Agriculture, forestry, fishing, and related occupations	3,661	3,785	3,823	3.3	2.9	2.5	124	37	3.4	1.0
Precision production, craft, and repair	13,832	14,446	15,448	12.4	10.9	10.2	614	1,002	4.4	6.9
Operators, fabricators, and laborers	16,206	17,843	19,365	14.6	13.5	12.8	1,637	1,522	10.1	8.5

SOURCE: George Silvestri, "Occupational employment projections to 2006," *Monthly Labor Review*, November 1997, p. 59.

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The machine-tool operator today is more likely to insert a programmed diskette into a control module than to set measurement devices manually. The computer program itself is likely to have been written by a programmer, not by a machine-tool operator on the shop floor. Though it might appear that machine-shop workers' skill requirements have decreased, some workers may exercise discretion over the programmed tool. In fact, some jobs in the machine shop have been "de-skilled" while others have been redesigned to require formal education in new, abstract skills such as use of programming languages.

The Bureau of Labor Statistics (BLS) periodically projects the types of jobs that will be needed in the U.S. workforce. Table 7.1 shows the latest BLS projections of the occupations in the U.S. labor force to the year 2006.

The occupational groups that require the most education are projected to be among the fastest growing. Employment in professional specialty occupations is projected to increase the fastest. Technicians and related support occupations will have the second-fastest growth rate.

POST-SCHOOL TRAINING

To meet rising skill needs, young workers are raising their skills, not only by obtaining more schooling, but also by participating in post-school training to a somewhat greater extent than did previous generations. Between 1983 and 1991, the number of 20- to 24-year-olds participating in formal job training programs increased from 8 percent to 10 percent.[1] Younger workers also participated in post-school adult education and training activities at higher rates than their older counterparts. More than half of all 17- to 27-year-olds had participated in post-school adult education and training activities since leaving full-time schooling. In contrast, only 40 percent of workers over 60 years old had ever participated in adult education and training.[2]

Much of the investment in post-school adult education is being made by workers who already have higher levels of formal educational attainment. From 1990 to 1991, nearly 80 percent of young workers with some college education had participated in post-school education and training since leaving full-time schooling. Fewer than half of young workers with a high-school degree but no college, and only 22 percent of young workers with no high-school degree, had participated in post-school training.

Box 7.1

America's Jobs Network

How will those who seek twenty-first century skills training find out what is "out there?" Through America's Jobs Network.

America's Jobs Network, a new umbrella for all federally funded training-related activities, will identify services available for those looking for jobs, wishing to acquire skills, or seeking new workers. The Network design will also ensure that state and local employment and training partners can target their resources to where they are needed most. It will include a tollfree telephone number to allow everyone access to information on the services available throughout the workforce investment system.

The Network will be available to everyone from the high-school sophomore curious about possible career paths, to the older worker contemplating a return to the labor market, to the disabled individual or at-risk youth who may require special services and support. An integrated set of automated tools called America's Career Kit—which includes America's Job Bank, America's Talent Bank, America's Career InfoNet, O*NET, and America's Learning Exchange—will allow customers immediate access to world-class labor-market products and information from One-Stop offices, public libraries, community colleges, community-based organizations, or via the Internet.

Large discrepancies also exist among young workers in terms of specific types of employment-related training. The group with some college study participated in supervisory, professional development, or sales and marketing training at about twice the rate of those with only a high-school education. The very low participation rates in computer software training among young high-school–only workers (6 percent) and among high-school dropouts (under 2 percent) is particularly disturbing given the evidence that using a computer on the job significantly raises earnings.[3]

BASIC SKILLS ARE NOT SO BASIC ANYMORE

Although the workforce's educational attainment is at an all-time high, and younger workers are increasing their amount of post-school education and training, more is needed, especially in job-related basic skills. Consistent with the finding that approximately 20 percent of the population reads at or below the fifth-grade level, a 1996 American Management Association (AMA) survey of mid-sized and larger businesses found that 19 percent of job applicants taking employer-administered tests lacked the math and reading skills necessary in the jobs for which they were applying. The

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AMA's 1998 survey, however, found that this percentage had increased to almost 36 percent.

> My interest is in the future because I am going to spend the rest of my life there.
>
> Charles Franklin Kettering
> Inventor

The sharp increase in the deficiency rate is due, the 1998 AMA report concluded, not to a "dumbing down" of the incoming workforce but to the higher literacy and math skills required in today's workplace. When labor markets are tight, employers may find it necessary to test a greater number of applicants to find qualified workers. The 1998 study found that although the overall percent of low-education workers increased, companies faced with continuing skills shortages were more willing to hire skills-deficient applicants and train them through remedial programs.[4]

Work Reforms Can Increase Productivity . . . And Reshape Workplaces

Along with efforts to improve productivity through increased worker skills, many employers are trying to improve productivity by reforming the way they organize work and motivate workers. Work reform movements typically proceed in cycles of enthusiasm followed by disillusionment,[5] but, after trial and error, the best elements usually become part of the accepted way of doing business. Successful reforms will shape the workplaces of the future.

To increase quality and lower costs, some firms are experimenting with greater worker involvement and interaction, through innovative work practices such as worker teams, total quality management, quality circles, peer review of employee performance, worker involvement in purchase decisions, and job rotation.[6] Labor unions often work with employers to put such concepts into practice in the workplace.

Additional practices used to boost productivity include profit sharing, linking pay to performance, decentralizing responsibility, and increasing worker autonomy.[7] Changes in workplace and factory layouts may also increase efficiency and reduce ergonomic-related injuries. Such work practices can often result in high performance particularly when combined with increased training; new technology; improved communications among

producers, suppliers, customers, and company divisions; or new tools for inventory and quality control. Organizations that integrate several of these approaches have been called "high performance" work organizations.[8] Many workplaces, including many where workers are represented by a union, have adopted one or more of these work practices. The Wisconsin Regional Training Partnership, for example, is an organization in which labor and management cooperate, both within and across firms, to build high-performance workplaces where continuous education and innovation are the norm.

Companies now use computers and telecommunications tools to link to customers and suppliers. Sometimes, because of these new tools, companies faced with rapidly changing market conditions rely upon the increased involvement of workers and their unions in managing the production process. Workers and their unions, often through use of teams, can help management to anticipate problems and bottlenecks, participate in new product development, monitor quality, address safety and health issues, and so on.

INCREASING THE EMPLOYEE STAKE IN COMPANY PERFORMANCE

Many firms are experimenting with linking worker pay and company performance more directly through profit sharing.[9] Gain sharing is another type of compensation system in which pay corresponds more directly to worker performance.[10] Some companies allow workers to buy company stock through payroll deductions at rates discounted from the market share price. These practices increase the economic stake that workers have in company performance. Now limited to a small percentage of the workforce, these direct linkages of employees to the success of their companies, if they pay off in company productivity, are likely to spread.

In 1993, BLS gathered data on the organization of work and employer-provided training.[11] The survey covered eight alternative work organization practices: worker teams, total quality management, quality circles, peer review of employee performance, worker involvement in purchase decisions, job rotation, just-in-time inventories, and compensation systems based on a "pay for knowledge" system. The survey found that 42 percent of workplaces used at least one of these practices. In 1994, the Commission on

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the Future of Worker–Management Relations found that over 95 percent of the largest employers used employee-involvement mechanisms.

Using these new performance-enhancing strategies goes hand in hand with training workers and enhancing their skills. The BLS survey showed that nearly all (98 percent) of the establishments that used these new practices also provided formal training opportunities for their workers. In contrast, only 80 percent of establishments that did not adopt any of the newer workplace practices provided formal training. The difference in the intensity of training (measured by the number of hours per worker) was even more dramatic. Workers in establishments providing both training and new workplace practices spent four times as many hours in training as did workers in establishments providing none of these newer workplace practices.[12]

The effectiveness of alternative work organizations depends on appropriate human resource management. One recent analysis maintained that innovative work practices can improve the economic performance of a company only if three requirements are met:

- The employees possess knowledge and skills that managers lack;
- The employees are motivated to apply these skills and knowledge; and
- The organization is structured to channel these skills and knowledge towards improving productivity.[13]

Many experiments in work organization have resulted in dramatic changes in the way companies operate. Not all will prove superior to previous approaches, but those that do improve productivity are more likely to be found in the workplaces of the future.

Nontraditional Workers Are an Important Part of the Workforce

Future employers will demand not only increased skills and high-performance workplace practices but also a more flexible workforce. Labor-market experts believe that nontraditional workers—people who work in alternative arrangements such as on-call workers, independent contractors, temporary help or leasing agency workers, as well as contingent workers—will be a larger share of the future workforce. This section examines those who make up this growing nonstandard workforce.

NONTRADITIONAL WORK ARRANGEMENTS

Contingent workers. According to BLS, contingent workers are "individuals who do not perceive themselves as having an implicit or explicit contract for ongoing employment." Such workers were 4.4 percent of the workforce in 1997, a slight reduction from 1995 (4.9 percent).[14] (Currently, data are only available for both contingent and alternative work in 1995 and 1997.[15]) Contingent workers also earn lower wages than noncontingent workers. The median wage earned by full-time contingent workers was 82 percent of that of full-time noncontingent workers. Furthermore, contingent workers are much less likely to have employer-provided health insurance or to be eligible for employer-sponsored pension plans. Younger people are more likely to be contingent workers, as are blacks and Hispanics, although the proportion of black workers who are contingent workers declined from 6.1 percent in 1995 to 4.6 percent in 1997.[16]

Alternative work arrangements. BLS defines four work arrangements as alternative: independent contractors, on-call workers, employees of temporary help agencies, and employees of contract companies.[17] In 1995 and 1997, these workers were 9.9 percent of all employed workers.[18] (See Chart 7.1.)

There are broad differences in the characteristics and earnings of the four types of workers in alternative work arrangements. For example, in 1997, among full-time workers' median weekly earnings, contract firm workers' earnings were the highest of all alternative arrangements ($619), higher even than workers in traditional arrangements ($510). Independent contractors earned $587, while earnings for on-call workers ($432) and employees of temporary help agencies ($329) were lower. These differences are partly reflected in the occupational concentration of each arrangement: for example, independent contractors are more likely to be in higher-paying managerial and professional specialty jobs as opposed to temporary help agency workers, who are typically employed in administrative support and laborer jobs.

Part-time workers. Part-time workers are defined by BLS as persons at work less than 35 hours a week for a reason other than temporary absences such as a holiday. Their proportion of total employed persons rose from 13 percent in 1956 to 17 percent in 1979, but the upward trend slowed in the 1990s.[19]

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CHART 7.1 **Percent of employed persons with alternative and traditional work arrangements**

SOURCE: *Bureau of Labor Statistics*

Multiple-job holders. BLS data indicate that multiple-job holders tend to be represented in relatively equal proportions at all levels of wages and are as likely to be women as men. Multiple-job holders increased from 5.2 percent of the working population in 1970 to 6.0 percent in 1998.[20]

EMPLOYER USE OF NONTRADITIONAL STAFFING

Nontraditional staffing is widespread—in all industries and in establishments of all sizes—and it grew in the 1990s. (See Table 7.2.) Part-time workers—used in 72 percent of all establishments—are the most common nontraditional arrangement. However, even when the part-time category is excluded, nearly four out of five employers used some form of nontraditional staffing arrangement, and many used more than one.[21]

Among the most common reasons employers cite for using nontraditional workers are to accommodate workload fluctuations and to fill positions that are temporarily open due to permanent employees' short-term absences.

Box 7.2

Look who's temping now . . .

In 1946, Russell Kelly started a business that by 1957 was incorporated as Kelly Girls Services, Inc. The company originally operated only in Detroit, and nearly 100 percent of its revenue came from placing secretaries and clerical workers in temporary jobs.

In 1966, the company became Kelly Services, Inc. By 1996, it ranked number 406 on the list of Fortune magazine's 500 largest companies in America. Today, no longer just a temporary help agency, the firm comprises a range of specialized leasing and contracting companies operating in 19 countries. In 1997, roughly 15 percent of its revenue was generated by professional and technical placements, such as biologists, lawyers, accountants, chemists, and computer analysts. By 1998, the revenues from these highly skilled placements had increased to 20 percent, a proportion expected to increase in the future.

Kelly is just one of a growing number of businesses that provide highly trained temporary workers in short order, allowing employers to augment their workforces to meet specific and immediate needs.

Employers expect to use nontraditional staffing arrangements much more in the future.[22]

ATTRIBUTES OF NONTRADITIONAL WORK

Benefits. In a 1996 survey of over 500 employers, the per-employee cost of wages plus benefits was considerably lower for nontraditional workers, especially for on-call workers. It was also considerably lower for part-time workers. This was largely due to the fact that these workers were ineligible for employer-provided retirement and healthcare benefits.[23] For example, only 7 percent of temporary help agency workers and 20 percent of on-call workers receive healthcare insurance from their employers. (See Table 7.3.) While some nontraditional workers have access to health insurance through another source, they are much less likely than traditional workers to be covered at all.[24]

A large percentage of nontraditional workers are also excluded from participating in an employer-sponsored retirement plan. In 1997, for example, only 10 percent of temporary help agency workers were eligible for employer-sponsored pension plans based on their own employment.[25] Use of voluntary retirement plans is also often low for a couple of reasons. First, some workers do not earn enough to afford to contribute to a retirement plan.

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TABLE 7.2 **Employers use of nontraditional workers, percent change since 1990**

	Type of work arrangement		
Use of workers	Temporary help agency	Part-time	On-call
Increased	24	25	18
Decreased	24	9	15
Remained the same	48	65	65
Don't know	4	2	3

SOURCE: Susan Houseman. *Temporary, Part-Time and Contract Employment in the United States: A Report on the W.E. Upjohn Institute's Employer Survey on Flexible Staffing Policies.* November 1996, rev. June 1997.

Second, for some, their status as an employee is so uncertain that benefits become inaccessible.

Some nontraditional workers have access to health insurance and retirement plans through their spouses or other sources. Not all nontraditional workers, however, are fortunate enough to have this alternative, and high divorce rates indicate that spouses may not always be able to rely on each other for their future security.

Flexibility. The advantage of nontraditional work for some workers is the added flexibility that helps balance work with family and other responsibilities. For example, in 1997, slightly more than half of the women independent contractors combined their work arrangements with their work at home raising children. Roughly 25 percent of independent contractors, 20 percent of temporary help agency workers, and 53 percent of on-call workers worked part-time, as compared to 18 percent of traditional workers. Many individuals in alternative employment relationships report satisfaction with their arrangements, although a majority of temporary agency employees (59 percent) and contingent workers (56 percent) prefer a standard job.[26]

Regulations and workplace protections. Both employment and labor laws were created primarily with the traditional, full-time, permanent labor force in mind, but members of the nontraditional workforce also need legal protections and recourse. To qualify for coverage under some federal

TABLE 7.3 **Percent of workers with health insurance and pension coverage by work arrangements, 1997**

Health and pension status	Type of work arrangement: Traditional	Contingent	On-call	Temporary help agency	Contract company	Independent contractor
Health insurance from any source	83	67	67	46	82	73
Employer-provided health insurance:						
Eligible	73	35	31	26	69	n/a
Receiving	61	22	20	7	50	3
Pension coverage from any source	50	16	19	4	36	37
Employer-provided pension coverage:						
Eligible	57	23	25	10	46	n/a
Receiving*	48	16	19	4	36	14
Number (thousands)	107,689	5,140	1,996	1,300	809	8,456

SOURCE: Steven Hipple, "Contingent work: results from the secondary survey." *Monthly Labor Review*. November 1998, table 10, p. 30. Sharon Cohany. "Workers in alternative employment arrangements: a second look." *Monthly Labor Review*. November 1998, tables 13 & 14, pp.17–19.

*SOURCE: Craig Copeland, Paul Fronstin, Pamela Ostuw, and Paul Yakoboski. "Contingent Workers and Workers in Alternative Work Arrangements." *EBRI Issue Brief*, March 1999.

Independent contractors select own benefits, therefore, they are listed under "receiving" in the table.
n/a: not applicable.

employment laws, a nontraditional worker may face the difficult task of proving the existence of an employment relationship, and it may not always be clear who has responsibility for the well-being of the worker.[27] In 1994, the Commission on the Future of Worker–Management Relations noted the future challenge of balancing worker needs for diverse, flexible employment options and workplace protections with employer needs for flexibility in order to remain competitive in a global economy.[28]

THE FUTURE OF THE NONTRADITIONAL WORKFORCE

According to one national study, 65 percent of employers believed that, in the future, firms would increase their use of flexible staffing arrangements.[29] The use of nontraditional workers fits with the evolving perceptions of employers regarding labor costs, competition, changing obligations,

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and potential litigation. "Just in time" workers mirror the successful industrial model of "just in time" inventories.

Firms wanting to become more efficient or to protect against layoffs in an economic downturn may use nontraditional staffing arrangements. Such a staffing strategy can improve a firm's competitive position by using the mix of traditional and nontraditional employees that best meets the firm's needs. However, nontraditional employees are increasingly viewed as the just-in-time workforce. These employees receive little employer-provided training and are far less likely to receive benefits through their employers. Their hiring arrangements are frequently handled by the firm's purchasing department, making for a different entry and work status on the part of the firm.

Among nontraditional workers, the number of professionals is increasing. These workers are more likely to command high wages and buy their own health and life insurance. Employers may attempt to attract these workers by increasing portability of pensions and health insurance. Although increasing in number, high-skilled professionals will remain a minority in the nontraditional workforce.

Changing employer–employee relationships. A workforce composed totally of traditional workers is becoming a thing of the past. While its future proportions are still debatable, the nontraditional workforce will probably increase. At the same time, employer-employee relationships are changing. Whether one thinks about the nontraditional workforce in terms of the changing social contract, a move to just-in-time workers, or a way to make human capital flexible in a competitive global economy, the definitions of employee, employer, and workday are certainly changing, raising a number of issues.

There is a growing policy division regarding the nontraditional workforce. Some perceive this as a large and growing workforce which employers relegate to second-class employment—with no worker benefits, little or no mutual loyalty, and all risk borne by the employee—while employers benefit from lower costs. In essence, they see a strong need to contain this type of work. Others see the nontraditional workforce as an opportunity for the worker to achieve flexibility in work schedule, gain new experiences, or use as a bridge between times of full employment. This latter group sees the growth of the nontraditional workforce as a win-win situation to be encouraged.

With the increase in creative staffing arrangements, including temporary help, leasing, and contract work, there may be a need to examine and

possibly reformulate the definitions of employer and workplace for determining responsibility for wages and benefits as well as other standards and regulations.

Worker misclassification. It is sometimes difficult to determine whether a worker is an employee of a firm, an independent contractor, or working for a third party. Whether the employer's record keeping is purposely obscure or there is an honest mistake, workers entitled to benefits may not receive them. Worker misclassification is not an easy problem to solve and will only grow worse as more nontraditional workers join the labor force. Courts and Congress have been asked to address this issue, usually on a piecemeal basis under a specific law. As the nontraditional workforce grows, it will become even more important for the Department of Labor and other government agencies to help employers maintain proper classifications. It is also imperative that private firms, business associations, unions, and intermediary organizations address these complex problems and find solutions that enhance workforce flexibility, while giving workers and taxpayers what they deserve.

Training. Nontraditional workers generally receive less training than do traditional workers for a number of reasons, including employees' lack of a long-term commitment. Regardless of the reason, this nation cannot afford to let any class of workers fall behind in skill development. Temporary help agencies, labor unions, nonprofit organizations, and employer groups can enhance their training of various work groups. Small businesses that lack resources can participate in sectoral training or train through intermediary organizations such as temporary help agencies. Government can support such training, either indirectly through diverse organizations, or directly, as in the support now given by the Department of Labor and by the Small Business Assistance Programs in various federal agencies.

Worker benefits and protections. Nontraditional workers receive fewer benefits—be they healthcare, vacation, unemployment compensation, or pensions—than do full-time workers. Some of this is due to eligibility and coverage definitions; some, to improper company record keeping; and some, simply to lack of access. These complex issues are not easily resolved. While not all nontraditional workers will, or perhaps should, receive the same benefits as other workers, much can be done to help them obtain access to essential benefits. This raises challenges for corporations, small business-

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es, labor unions, contracting firms, and temporary help agencies on a number of fronts. Options include: increase the application of already successful models, such as portable pension plans; broaden eligibility requirements; and keep better records so that workers' potential wages and benefits can be properly ascertained. While these solutions may at first appear to be disadvantageous to employers because of their costs, to labor unions because they encourage nontraditional work, and to temporary help organizations because it reduces their competitive advantage, self-determination and cooperative ventures in fact offer some of the best solutions.

Downsizing and Insecurity: Mixed Evidence on Magnitudes

Another aspect of the changing workplace is the increasing job insecurity for some workers. Job insecurity is a concern of workers in both traditional and nontraditional work arrangements, particularly in a dynamic economy characterized by high rates of job dislocation as well as job creation. It arises from worker concern both about being displaced (losing a job) and about having difficulty finding another equally desirable one. Job insecurity includes both lack of job stability (job change) and workers' perceptions about job security. Job stability can be measured in terms of how long jobs last and whether there has been a decline in job tenure. Job security, however, is more subjective: workers may voluntarily change jobs more often when economic times are good or change jobs less often when they are more concerned about job security and see fewer opportunities. Involuntary job loss clearly provides one measure of job insecurity.

How much value do workers place on job security? While loss of a job is generally an unpleasant experience, a highly skilled and highly mobile workforce may place a lower value on job stability and may even value voluntary job change and job variety. Concern about job security probably diminishes for many workers during periods of low unemployment when the risk of long periods of unemployment is less.

Many people believe job insecurity has increased in recent years, despite low unemployment rates that would seem to indicate increasing job security. The 1980s and 1990s were marked by concern about "displaced" workers—those who permanently lost their jobs because their plant or company

closed or moved, there was insufficient work for them to do, or their positions or shifts were abolished. In the mid-1990s, several major news publications ran stories on the extent of job displacement in the U.S. workforce, with the implication that job insecurity had increased.[30] Yet during 1995 and 1996, employment actually rose by 5 million and the unemployment rate fell to its lowest level since the end of the 1990–1991 recession.

Nevertheless, under strong labor-market conditions, workers will lose jobs. Such "job churning" is expected even in a strong economy. The mid-1990s stories in the media about job displacement reflected the number of workers displaced during the early-1990s recession, a number certainly greater than the number who had been displaced in the late 1980s and greater still than the number displaced a decade earlier. During 1991 and 1992, 5.4 million workers were displaced; about half of them—2.8 million—were long-tenured workers, workers who had held their jobs for three or more years.[31]

Labor-market recovery from the 1990–1991 recession was slow compared to recoveries from earlier recessions. But when economic activity accelerated in 1993 and 1994, both the level and the risk of job displacement began to fall. Between 1993 and 1994—a period of strong labor-market conditions—2.4 million long-tenured workers were displaced from their jobs, 0.4 million fewer than were displaced between 1991 and 1992. The displacement rate, which reflects the likelihood of job loss during specific periods, fell from 3.9 percent in the 1991–1992 period to 3.2 percent in 1993–1994.[32] BLS data show that during the 1995–1996 period, the number of workers displaced fell further to 2.2 million, and the displacement rate to 2.9 percent.[33]

Of the 2.2 million workers displaced in the most recent period, 83 percent were reemployed when surveyed in February 1998, a considerable improvement over the 75 percent reemployment rate found among workers displaced during 1991 to 1992, a period of much poorer labor-market conditions.[34]

While most displaced workers eventually become reemployed, they often experience large and persistent earnings losses. Annual earnings of displaced workers in one study fell an average of 25 percent from the year prior to job displacement. One year after displacement, their average earnings remained 15 percent below the earnings of similar nondisplaced workers. During the 7 or more years following job loss, their average

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Box 7.3

Who are displaced workers?

Displaced workers are adults ages 20 and older who lost or left jobs because their employer closed or moved, lacked sufficient work, or abolished their position or shift.

Eight million workers—one in sixteen working Americans—joined the ranks of the displaced between January 1995 and December 1997. Of those, fewer than half (3.6 million) were long-tenured workers who had been with their employers three or more years. Of the long-tenured workers, women were slightly more likely to be displaced than men, though men represented a bare majority—53 percent—of the displaced. Displacement hits workers regardless of their race; the proportions of displaced blacks and Hispanics were roughly equal to their representation in the total workforce.

The jobs from which workers were displaced changed dramatically over time. In the early 1980s, nearly half of all displaced workers had lost a manufacturing job. By the mid-1990s, this proportion dropped to roughly one in four. Other industries saw significant increases in displacement rates over the same period. About one in four displaced workers had lost a job in the services, trade, finance, insurance, or real estate industries in the early 1980s; by the mid-1990s, one in two displaced workers had lost a job in those industries.

The oldest displaced workers were the least likely to find new jobs. Only about one in three displaced workers 65 or older had found a new job by February 1998. By contrast, new jobs had been found by over eight in ten workers 25 to 54 years of age and by six in ten workers 55 to 64 years of age.

Because a worker can be displaced from his or her job at any age, or from any industry, there is a lifelong need to continue learning in order to reduce the likelihood of displacement and to improve job prospects if displaced.

annual earnings were 6 to 12 percent below expected levels.[35] On average, however, individuals who completed the Department of Labor's dislocated worker training program and entered employment, exceeded 100 percent of their pre-dislocation wages during the 12 months ending in June 1998.

Job Turnover: Mixed Evidence for the 1980s, Some Shift Up in the 1990s

Though media accounts sometime suggest that long-term job attachments are becoming an artifact of the past, the evidence is actually mixed. While the average worker holds nine jobs by the time he or she reaches age 32,

high rates of job change have always been found among students and young workers. As in earlier eras, job attachment today grows as workers mature and settle into their careers.

On the other hand, the American worker has some reason to be concerned about job stability and to make every effort to keep skills current and adaptable in the event that job change becomes inevitable. Among men (but not women) in their middle and later working years, the median years of tenure with the current employer have decreased.[36]

Job stability overall declined modestly in the first half of the 1990s, but decreased rather sharply for those workers who had already accumulated a fair amount of job tenure. Reductions in job stability in the first half of the 1990s were greater than those of the 1980s. More significantly, in the first half of the 1990s, more-tenured workers experienced declines in job stability. This contrasts with the 1980s, in which the declines in job stability were concentrated among young, less-skilled, less-tenured workers.[37]

Thus, while long-term job attachments continue to be important for American workers, they are becoming somewhat less universal. In the future, workers must be ready to manage the changes and dislocations they may face in a rapidly changing economy.

The Future

Technological change and international competition have placed a premium on workers who are educated and highly skilled. Even if future labor markets are not as tight as those today, there is every reason to believe that the workplace changes that created today's demand for skilled workers will continue. Workers with post–high-school education and training will have ample opportunities in the workplaces of the future.

The need for skilled workers will be reinforced by continuing changes in how companies and other organizations operate, such as use of work teams and increased worker autonomy. Employers of the future will place increasing value on workers who not only can operate the tools of tomorrow, but who also can find ways to increase their company's productivity and earnings.

As the workplaces of the future respond to technological change and global competition, as well as the needs of workers, the use of nontraditional employees, such as contingent workers, independent contractors, and

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employees of temporary help agencies, will likely rise. With the increase in these staffing arrangements, continued attention is needed to ensure that these workers receive worker protections. Additionally, these workforce trends may result in declining job stability. Workers must be ready to manage the changes and dislocations they may face by keeping their skills up-to-date.

8 Framing the Debate

Taking Stock

As America entered the twenty-first century, its economy continued to grow—and many workers and their families are sharing in this prosperity. Yet emerging technologies, globalization, and the information-rich economy are changing the working world—including the American workplace. How are the forces of change making it easier in some cases, and more difficult in others, for workers to meet their needs? Policy- and decisionmakers in both the public and private sectors should take stock of the needs of the worker and the workplace.

WHAT ARE WORKERS' NEEDS?

First, workers need lifelong economic security for themselves and their families. They need the opportunity to obtain skills that will guarantee them high wages. Workers should be able to use technology to their advantage, without fearing that it will make them "jobsolete." Workers should be skilled, not stuck, in the new economy.

Second, workers need to balance work with caring for their families. Some workers can be helped by onsite childcare. A variable schedule enables others to care for children and aging parents. For still others, nontraditional working arrangements are the answer. But all workers need to know that they can achieve a balance between work and family without having to forego adequate earnings and health and pension benefits.

Third, workers need workplaces that are safe and fair—protected from health hazards and free from discrimination and other unfair employment practices. In the last 35 years a great many of the barriers have fallen which prevented America's women, minorities, and disabled workers from participating, let alone succeeding, in the workplace. The future workforce is destined to be even more diverse. Future employers will have the advantage of multicultural, multilingual workforces that offer new opportunities to compete more effectively in the global market.

TRENDS AFFECTING FUTURE WORK

Future growth in occupations and industries will reflect long-term trends such as the continued rise of the service sector, but within certain industries and occupations, changes are occurring at a more rapid pace. Changes in technology, particularly in computers and telecommunications, have virtually transformed whole industries and occupations. These changes are opening employment opportunities for many, particularly those workers with disabilities. Increased global competition, due in part to advances in communications, has increased the demand for new technologies and for the people who can imagine new ways to use them.

SKILLS ARE THE TICKET

Educational attainment is rising as is the demand for highly educated workers. Yet for the large portion of American workers who do not attend college, skills will still play an important role.

The majority of jobs being created today, while requiring less than an associate's degree, will require other cognitive and communication skills. Continued technological change will increase the number of occupations that require at least some technical skills. Lifelong learning will grow in importance.

The economy is booming, new jobs abound, and wages and benefits are growing. But the pattern of growth is uneven: the earnings of highly educated workers have been increasing faster than those of less-educated workers for most of the past two decades.

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BALANCING WORK AND FAMILY

For many working families, the balance between work and family remains elusive. Families have significantly increased their time at work and are searching for the time to spend with their children and aging parents.

In 1998, almost three out of four women with children were in the workforce—and many have daycare needs. In 1996, almost 20 percent of American households provided informal care to a relative or friend age 50 or older. By the year 2005, this number is estimated to more than double.

Nontraditional arrangements offer both the employee and employer more flexibility than traditional jobs. Instead of a full-time, year-round job with benefits, training, and a pension upon retirement, roughly 1 in 10 workers now has a fundamentally different, nontraditional working arrangement. Nearly four out of five employers use some form of nontraditional staffing arrangement.

The price of flexibility may prove to be too high for some workers. Only 7 percent of temporary workers receive healthcare benefits, and just 1 in 10 is eligible for an employer-sponsored pension plan.

Full-time independent contractors earn more than equivalent traditional workers. Traditional workers earn more than all other comparable categories of nontraditional workers. Agency temps' weekly earnings are the lowest of all alternative workers and are two-thirds of traditional workers' earnings. Nearly 60 percent of temps working for an agency would prefer traditional work.

CLOSING THE GAPS

The U.S. workforce is becoming larger and more diverse—including more people of color, older Americans, women, and people with disabilities. The availability of large pools of such workers creates the opportunity to maintain economic growth by tapping new human capital resources. Additionally, employers will be able to use America's increasing diversity to give them a competitive edge in emerging domestic and international markets.

Women have made tremendous strides. From construction sites to the boardroom, more women than ever before are working, and more own their

own businesses. Yet despite these advances, significant wage gaps remain between men and women.

The wage gaps between white workers and other racial and ethnic groups have narrowed but have not been eradicated. Persons with disabilities now have greater opportunities in the workplace, but technology alone cannot close the gap between their wages and those of persons without disabilities.

Workplaces are safer and healthier than ever before, but some recently emerging problems, such as ergonomic hazards, remain, and new problems arise with new technologies.

Questions for the Future

We hope that *Futurework* will provoke thought and discussion to help policy- and decisionmakers address the changing times and the effect on workers' needs. We offer the following questions and observations as a springboard.

ON ACHIEVING ECONOMIC SECURITY

How can workers get the education and training they need to keep their skills up-to-date and to ensure that they do not get stuck in low-wage jobs? What incentives will keep individuals learning over the course of their worklives to bolster their lifelong economic security? How can training be delivered most effectively? As computer networks compete with human networks in our workplaces, who will guide and mentor new workers on the job?

Unions have helped millions of Americans with less formal education achieve economic security through collective bargaining. How can they build on their success while meeting the challenges of technological change and globalization?

Technology provides flexibility in existing jobs and creates new jobs. At the same time, it can make jobs obsolete. How will policymakers, employers, unions, workers, and others manage this paradox?

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ON BALANCING WORK AND FAMILY

How can workers balance their needs for both life-long economic security and the resources and time to care for their families?

How can unions and employers build on and multiply successful existing programs such as onsite childcare, flexible start and stop times, job sharing, and eldercare referrals?

How will workers in both traditional and nontraditional working arrangements acquire the health insurance and pension benefits they need?

ON DESTINY AND DIVERSITY

The workforce is destined to become more diverse. How can we harness the resulting opportunities for economic growth? Does difference necessarily lead to discrimination? How can we get low-wage workers "unstuck" and into better-paying jobs?

How can we adapt what we have learned in closing gaps in education, work experience levels, and wages to help those workers who remain among the poorest of Americans?

How can we remove the multiple barriers that keep many of these Americans from entering and then succeeding in the workforce—barriers such as low skills, discrimination, lack of transportation, lack of contacts in the labor market, and childcare problems?

How do we help the poorest workers achieve meaningful, long-term employment? How can we best spread the message that help is available? How do we reach those who are living on the margins of society? How do we make work pay for all Americans?

Will policy- and decisionmakers in government, labor unions, private industry, schools, and communities address the changes that are inevitable and embrace the challenge of meeting future workers' needs?

> In this new economy, we have to think of family-friendly policies in a new way. Not as fringe benefits. Not as perks. But for what they really are—good ideas that are good for workers and good for business. Make no mistake. Companies succeed in the global marketplace when workers succeed around the kitchen table.
>
> Secretary Alexis M. Herman
> April 23, 1998

The Future

The twenty-first century demands innovative thinking by policy- and decisionmakers in both the public and private sectors. The key to continued growth is to make sure that all Americans share in the nation's prosperity—that we use our abundant human resources to their fullest advantage.

We hope we have helped frame the debate for policy- and decisionmakers of the twenty-first century and look forward to the wide-ranging discussions that will follow.

> The future ain't what it used to be.
>
> L.P. "Yogi" Berra

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A Back to the Future: Past Efforts at Viewing the Future

The Department of Labor has regularly attempted to anticipate trends in the workforce and workplace to assist it in planning ways to better serve America's working people. Below is a sampling of these efforts.

OCCUPATIONAL OUTLOOK STUDIES

In 1940, Congress authorized creation of the Occupational Outlook Service in the Bureau of Labor Statistics. Initially concerned with providing job projections for use in employment counseling, the Service soon began developing projections of workforce supply and labor needs for defense industries. After World War II, the program provided projections for use in counseling veterans. It also studied occupational realignments during the war to aid in planning the demobilization.

PLANNING FOR THE POST–WORLD WAR II ECONOMY

In 1941, even before Pearl Harbor, Congress asked the Department to begin studying labor-related problems likely to arise after the war, particularly the issue of jobs and unemployment. In response, the Bureau of Labor Statistics established a Labor Problems Division that conducted statistical and economic research on employment problems that were expected to arise during demobilization. The data the Division developed were used in demobilization and postwar planning. Generally speaking, policymakers expected that unemployment after demobilization would be the most serious economic problem. As it turned out, returning servicemen and servicewomen were quickly absorbed into a booming postwar economy, and price inflation was the major economic problem.

LABOR SUPPLY ISSUES AND TECHNOLOGICAL CHANGE

During Secretary of Labor James Mitchell's term (1953–1961), it became increasingly clear that the problem of assuring an adequate supply of trained workers would be a major responsibility of the Department. To prepare policies for the development and full use of the country's workforce, Secretary Mitchell set up a special task force to administer a Skills of the Work Force Program. One of the task force's main jobs was to determine future workforce needs in a number of important occupations. One result of this effort was the publication of a series of long-term studies of the types of labor that would be needed in the 1960s and beyond. These studies revealed an expected growth in employment opportunities that would produce some 87 million jobs by 1970 (which turned out to be an overestimate), but they pointed to the danger of a continuing lag in the number of skilled workers. The study concluded that the participation of America's black, older, and women workers, as well as workers with disabilities, would be required. Out of concern for expected labor shortages, due in part to employment discrimination against these groups, the Department began to lay plans for action programs to improve their opportunities. The project also provided data on the impacts and trends of automation that were used by other departments and by the Congress.

Building on efforts that began in the Eisenhower administration, in 1961, Secretary Arthur Goldberg created an Office of Automation and Manpower to deal with employment problems created by automation and other technological developments and to coordinate departmental research in this area. New studies found that the greatest percentage of job growth was expected in professional and technical occupations. Demand was also to increase for clerical and sales personnel, skilled workers, managers, and those in service occupations.

In the early 1960s, the Department's Manpower Administration attempted to develop more accurate methods of anticipating the effects of technological change on employment in specific industries. In 1965, it launched a project focused on employment trends from 1965 to 1975 in three industries thought to be especially affected by technological change: industrial and engineering design and drafting (significant negative effects found likely, but far in the future); the telephone industry (moderate employment growth foreseen despite significant technological changes); and the health service industry (rapid increase in employment, jobs to be modified by new technology).

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MANPOWER REPORT TO THE PRESIDENT

The Manpower Development and Training Act of 1962 required the Department of Labor to prepare an annual *Manpower Report to the President.* One of the purposes of these Reports was to delineate future trends to help in developing future program and policy directions.

There was an extensive section of the first *Manpower Report* (1963), titled "The Manpower Future" and another section on "Looking Ahead"; both focused on future government efforts needed in this area. The report stated that, based on recommendations of the President's Committee to Appraise Employment and Unemployment Statistics in 1962, there must be deeper analysis of labor force data. In view of the many years of lead time required in planning and implementing expansions in training programs, the report was to look as far ahead as possible at future manpower needs and resources.

The first report correctly predicted that during the 1960s, the expansion of the women's labor force, especially of young women, would accelerate. It did not, however, anticipate the dramatic growth in the number of women job seekers that occurred. Its prediction was that by 1970 there would be 29.4 million women workers, an increase of 25 percent over the 1960 level. In fact, by 1970 there were 31.6 million, an increase of 36 percent. The prediction was even further off for women labor force participants aged 25 through 45. The 1963 Report anticipated a 1970 level of 10.2 million, an increase of 8 percent since 1960. Actual growth was to 11.7 million, a much sharper increase of 24 percent over the decade. The report also slightly overestimated the growth in participation by men. The result was that a massive trend toward greater participation by women relative to men was missed.

SEMINARS ON MANPOWER POLICY

Beginning in 1964 and continuing into 1968, the Manpower Administration sponsored a series of seminars by leading experts on many aspects of work, society, and the economy. Several of the seminars dealt with predicting the future. At a 1967 seminar on professional manpower trends, speaker Dael Wolfle discussed problems in projecting into the future. He noted that "we can be fairly confident that some unexpected things will happen, so we hedge our projections by assuming that certain conditions or related trends will continue, and we give ourselves an escape route by warning that all

bets are off if our assumptions turn out to be inaccurate. How well have we done? I think not very well." He cited a 1954 commission on training that projected 12,000 doctoral degrees would be awarded in 1970. Yet almost 30,000 doctorates were actually granted in 1970.

In 1965 industrial engineer Dr. E.R.F.W. Crossman gave a seminar on automation, skill, and manpower predictions. He hypothesized that automation of industry would come in two phases. First, direct production work would be largely eliminated, leaving a fairly constant staff whose size would not be directly dependent on demand for products. The marginal labor requirement would approach zero. This would have important implications for the business cycle. A second, longer-run phase of automation would significantly reduce that fairly constant labor force.

OFFICE OF THE ASSISTANT SECRETARY FOR POLICY

In July 1963, Secretary Willard Wirtz established the predecessor of the Office of the Assistant Secretary for Policy. Created at the instigation of and then headed by Daniel Patrick Moynihan, its function was to enable the Secretary to understand and anticipate changes affecting workers. Early on, the Office worked on a five-year plan to achieve a fully trained and employed workforce.

In 1970, the Office helped prepare the pamphlet *U.S. Manpower in the 1970s: Opportunity and Challenge*. It dealt with the next ten years' economic and labor-force growth, demographics of a younger labor force, African-Americans' share of the economy, and increasing numbers of working women and what that meant.

WOMEN'S BUREAU FUTURE-ORIENTED EFFORT IN CARTER ADMINISTRATION

During the Carter administration, the Women's Bureau devoted itself wholeheartedly to anticipating future needs of the rapidly growing number of women in the workforce. Termed by labor economists the most important labor phenomenon of the twentieth century, this trend was expected, from the perspective of the late 1970s, to continue well into the future. The overriding concern of the Bureau in this period was how to accommodate the increasing numbers of women in the workplace, how they would be distributed in the various occupations, and what services should be provided that would improve their opportunities and working conditions.

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In 1978, the Women's Bureau Director began reporting directly to the Secretary of Labor instead of to an Assistant Secretary. This change enhanced the Bureau's ability to deal with future trends and issues. Recognizing the unmet and steadily growing needs of women for support such as employment training, childcare and flexible work arrangements, old age income security, and freedom from hazards and harassment on the job, the Bureau developed a three-pronged approach on these issues of the future. The strategy included policy development, outreach, and information dissemination.

Through its policy development efforts, the Bureau most effectively expressed and pursued its concerns about the future of women in the workplace. Policy staff identified and studied issues and emerging trends through statistical and legislative analysis, research, and interaction with experts in the various fields under study. They then developed policy recommendations for the Secretary of Labor and other federal officials. For example, acting on projected trend lines for women in the workplace, the Bureau successfully sought inclusion of measures in Comprehensive Employment and Training Act amendments that improved the provision of employment services to women. The Bureau also applied policy development efforts in such areas as equal employment opportunity for women in the construction industry, preventing sex discrimination and harassment in the workplace generally, issues of women business owners, and job safety and health for women.

The Bureau anticipated that, as women's labor-force participation rates rocketed to a projected 65 percent by 1990 (an overestimate of about 7 percentage points), it would have a larger role in dealing with the rapidly changing and growing needs of women workers. Among efforts that would need attention from the Bureau were changing outdated perceptions about the role of women in the economy, greater assistance to women below the poverty line, improving job opportunities for women in nontraditional occupations and high-technology jobs, and providing more services and flexibility to meet family needs.

BUREAU OF LABOR–MANAGEMENT RELATIONS AND COOPERATIVE PROGRAMS

In response to the Reagan administration's interest in improving industrial productivity and in making labor relations less adversarial, in May 1984, the Department established the Bureau of Labor–Management Relations

and Cooperative Programs (BLMRCP) as the focal point of federal efforts to encourage the growth of quality-of-worklife programs. It gathered and analyzed information on labor–management issues and trends and carried out an extensive research program.

Based on recommendations by three presidential panels which studied ways to improve competitiveness in the 1980s and afterward, BLMRCP developed a number of future-oriented conferences and publications to help labor and management professionals improve the labor-relations climate.

WORKFORCE 2000

Secretary William Brock (1985–1987) commissioned a study by the Hudson Institute titled *Workforce 2000: Work and Workers in the Twenty-first Century* (1987). The study identified major economic trends, such as healthy economic growth, a reduced manufacturing sector, higher skill demands in the service sector, and slow workforce growth. Based on these projections, the Institute suggested a set of goals, including improving the education of all workers, accelerating productivity, insuring continuing training and education of the aging workforce, dealing with needs of families and working women, and better integrating minorities into the economy.

DECADES LATER—SIMILAR CONCERNS

While many of these initiatives were considered decades ago, their concerns are echoed today. The forces of globalization, and more particularly technology, are driving employers' and workers' decisions in ways not contemplated as recently as the late 1980s and early 1990s. But these forces have not changed workers' basic goals.

Three themes still shape our goals for the future:

- How do we ensure that workers have the skills that provide lifelong economic security?
- How do we accommodate workers' needs to balance their jobs with caring for their families?
- How do we ensure that all workers have opportunities in America's workforce and that our diverse population works in safe and fair workplaces?

In the haste to address challenges as fast as they present themselves, policy- and decisionmakers will do well to remember that workers' needs have long remained constant.

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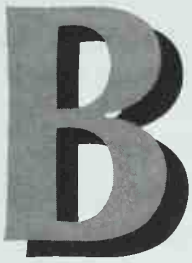

Glossary

alternative work arrangements

This term includes employment by temporary-help agencies, contract firms, on-call workers, and independent contractors.

alternative work schedules

Flextime or flexitime; a method to allow workers to adopt variable schedules of arrival, departure, and workweek hours. Benefits workers who have adverse commuting arrangements, child- or eldercare responsibilities, multiple jobs, etc.

America's Job Bank

A Web site, funded by the U.S. Department of Labor, where employers list hundreds of thousands of job openings. Registered employers can upload new job openings to the site daily.

America's Jobs Network

The nation's federally sponsored job-training system; the network of training and employment programs formerly identified under the Job Training Partnership Act.

benefits

The noncash portion of compensation. Typical benefits include paid sick leave, paid vacation time, or health insurance.

BLS

See Bureau of Labor Statistics.

browser

A computer program that allows a person to access information on the Web. A browser allows the user to view Web pages, navigate from one page to another, and interact with Web-based programs and services.

Bureau of Labor Statistics (BLS)

Part of the U.S. Department of Labor. Predecessor of the Department of Labor created in 1884 by an Act of Congress to collect information and statistics on the subject of working people.

cash balance plan

A pension plan in which an employer contributes a salary-based amount into an employee's account; a specified rate of return is guaranteed. This is a type of defined benefit plan.

cognitive skills

Mental abilities involving memory and reason; an essential element in the learning process leading to job skills.

Consumer Price Index (CPI)

A measure of changes in prices in the consumer sector of the economy. It is used to calculate real (or constant) dollars so that comparisons can be made disregarding the effects of inflation.

contingent workers

Workers who do not have an explicit or implicit contract for long-term employment.

contract company

An intermediary firm supplying workers to a client company to perform various services. Contract employees usually perform services for one client and perform most of the work at the client's location. Typical examples include security services, computer programming, and cleaning services.

CPI

See Consumer Price Index.

defined benefit plan

A pension plan providing a definite formula for calculating benefit amounts such as a flat amount per year of service or a percentage of salary times years of service. This includes cash balance plans.

defined contribution plan

A pension plan in which the contributions are made to an individual account for each employee. The retirement benefit depends on the account balance at retirement, which depends on amounts contributed and investment experience.

demographics

Characteristics of a population group, such as age, sex, and ethnicity. More broadly, it may include educational experience, immigration status, and other characteristics.

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Department of Health and Human Services (HHS)

Cabinet-level agency created by an act of Congress and signed by the President on April 11, 1953. Originally named the Department of Health, Education and Welfare, the purpose of the department is to foster, promote, and develop programs that improve the health, welfare, and income security of all citizens.

Department of Labor (DOL)

Cabinet-level agency created by an act of Congress and signed by the President on March 4, 1913. The purpose of the department is to foster, promote, and develop the welfare of the wage earners of the United States and to improve their working conditions.

digital

Refers to the use of ones and zeros to represent characters, images, or expressions.

dislocated or displaced worker

A worker who has been terminated or laid off; or who has received notice of termination or layoff because the plant or company closed or moved, or had insufficient work; or whose position or shift was abolished. This definition may vary for legislative and statistical purposes and may include the self-employed and displaced homemakers. For example, see Workforce Investment Act.

distance learning

The learning and teaching environment in which the teacher and student are geographically separated and, therefore, rely on printed matter and electronic devices for information flow. Distance learning is differentiated by the medium used to present and distribute the training. For example, technology-based training includes computer-based training and Web-based training.

DOL

See Department of Labor.

dot (pixel)

The smallest display element of an image or a computer monitor. All characters and images displayed on computer monitors are composed of a series of small dots called pixels. Also the expression used to verbalize the separator in e-mail addresses such as http://www[dot]dol[dot]gov.

downsizing

Reduction in the size of a workforce or workplace due to restrictions in operations or liquidation of operations as a result of mergers, acquisitions, or other reasons.

EAP

See Employee Assistance Programs.

e-commerce

Also electronic commerce. A general term referring to the conduct of business transactions in an electronic manner, usually on the Internet. More specifically, e-commerce refers to the integration of electronic mail, Electronic Funds Transfer (EFT), Electronic Data Interchange (EDI), and similar techniques into a comprehensive, electronic-based system encompassing business functions such as procurement, payment, supply management, transportation, and facility operations.

EITC

Earned Income Tax Credit.

e-mail

Computer users with electronic (e-mail) addresses can send messages to each other through computer networks and/or via modems over telephone lines. Many e-mail systems also allow users to attach documents and other electronic information to messages. E-mail can be shared between users within the same computer network, or e-mail can be sent over the Internet.

Employee Assistance Programs

Workplace-centered programs that provide employees with access to counselors and other healthcare professionals who deal with such problems as psychological stress and substance abuse.

employee involvement

Any technique intended to involve workers in the decision-making aspects of work, with the goal of improving productivity, quality control, and work life as well as reducing costs.

employee ownership

Workers' ownership of their workplace, usually through holding stock in the firm. This is often accomplished through an Employee Stock Ownership Plan, or ESOP.

ergonomics

The science of fitting the job to the worker in order to avoid injuries such as back strain, tendonitis, or carpal tunnel syndrome.

ESOP

Employee Stock Ownership Plan. See employee ownership.

e-tailing

A subset of e-commerce that deals specifically with online retail.

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Extensible Markup Language (XML)

A computer language that provides a common method and structure for describing data residing on Web pages. XML will support e-commerce and information interchange over the Internet.

flexible work schedules

Work schedules that permit adjustment of hours worked. Also known as flexitime.

FLSA

Fair Labor Standards Act provides, in part, for the provision of the minimum wage and compensation for overtime.

FMLA

The Family and Medical Leave Act, effective August 1993. Provides for job-protected family or medical leave.

GDP

See Gross Domestic Product.

globalization

The emergence of a trading system involving production and distribution across national boundaries.

Gross Domestic Product (GDP)

The aggregate value of all goods and services produced annually in the economy.

health maintenance organization (HMO)

Provider of managed health care, usually with restrictions not typically found in fee-for-service plans (e.g., selection of physicians is limited, geographic restrictions may apply).

HHS

See Department of Health and Human Services.

high-performance work organizations

Workplaces that implement new management techniques, such as worker teams, total quality management, or worker involvement in problem solving.

HMO

See health maintenance organization.

Hope Scholarships

A federal program in which students can receive a tax credit of up to $1,500 for tuition and fees in the first two years of college or in other eligible post-secondary training programs.

HyperText Markup Language (HTML)

The usual format for documents that are 'published' on the Web. Hypertext refers to text that contains links to other documents or specific locations within other documents. HTML is defined by an international standards group called the World Wide Web Consortium (W3C).

HTML

See HyperText Markup Language.

HTML Tags

Used in the construction of an HTML document. HTML Tags define how a browser will display the components within a published document. An example of an HTML tag is the "Bold" tag (represented in an HTML document as "<B>") which signifies to the browser to display the text following the tag as bolded characters.

hyperlink

A reference point in a computer document that is used to connect the document (or text within a particular document) to other documents (or text within that same or a different document). The reference point is typically a word or text that is highlighted or underlined. Graphics and images can also be hyperlinked.

independent contractor

Individuals who typically work for themselves, secure clients, and run their own businesses; examples include independent consultants, construction contractors, and freelance workers.

Internet

The Internet, also known as the World Wide Web, is composed of thousands of individual networks which have been interconnected to form a larger network. The connectivity provided by the Internet allows the public access to information and information services located around the world.

JAVA

A computer programming language that supports applications operating on the World Wide Web, especially those Web-based applications that interact with users.

job rotation

Job design featuring periodic exchange of duties with another employee(s). May be used to reduce exposure to some workplace risks, such as excessive repetition.

labor force

The civilian noninstitutional population (age 16 and over) who hold jobs (employed) or are actively seeking employment (unemployed).

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labor-force participation rate

The civilian labor force as a percent of the working age civilian, noninstitutional population ages 16 and over.

link

See hyperlink.

median

A statistical measure of central tendency; the middle value in an ordered list of values. It is one way of expressing an average.

nonstandard hours

A generic term for work schedules other than Monday through Friday, eight-hour workdays. Evening and night shift work, though performed on a Monday through Friday schedule, is also nonstandard.

nontraditional workforce

A generic term which includes contingent workers and those in alternative work arrangements.

Occupational Safety and Health Administration (OSHA)

A division of the Department of Labor, created by the Occupational Safety and Health Act of 1970. OSHA sets and enforces workplace safety and health standards and provides training and technical assistance to workers and employers.

on-call workers

Workers who report to work only when specifically asked to do so, such as some construction workers or substitute teachers.

Organization for Economic Cooperation and Development

An organization that provides the major developed countries a setting in which to discuss economic and social policy. It has 29 member countries.

OSHA

See Occupational Safety and Health Administration.

outsourcing

Contracting work out of a workplace. Often includes redesign of production systems to move work formerly done in-house to external contractors.

part-time workers

Persons who work fewer than 35 hours per week.

Pell Grants

A federal program that provides grants to low- and middle-income undergraduates.

production workers

The major group of nonsupervisory workers—often concerned with preparing and operating machines and hand production work, primarily in factories or other fixed sites.

productivity

The ratio of the output of goods and services produced to the inputs used in that production. Productivity indexes show the changes that occur in this relationship over time due to changes in technology, output levels, and the efficiency and characteristics of the inputs used.

real income

Income data that have been deflated by the CPI so that comparisons can be made disregarding the effects of inflation. Income includes wages as well as other sources of earnings, such as those from returns on investments.

real wages

Wage data that have been deflated by the CPI so that comparisons can be made disregarding the effects of inflation. Wages are earnings received as compensation for employment.

retention rate

A measure of tenure, expressed as a percentage of workers still with their employers after a defined period, e.g., one year. See entry for tenure.

SAMHSA

Substance Abuse and Mental Health Services Administration; part of the U.S. Department of Health and Human Services.

School-to-Work

Programs that restructure the educational experience so that students learn how academic subjects relate to the world of work. Teachers work with employers to develop broad-based curricula that help students understand the skills needed in the workplace.

search engine

A search engine allows a computer user to search for specific information on the Internet or on a specific Web site. A search engine may provide for searches by title, URL or web address, headers or subjects, or the full text of documents.

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server

A server is a high-end computer providing shared services to networked users. The types of services provided include Web services, print services, and/or file services.

Simple Mail Transport Protocol (SMTP)

The principal mechanism by which electronic mail is routed from one mailbox on the WWW to another.

SMTP

See Simple Mail Transport Protocol.

spiders, robots, and Webcrawlers

A computer program that conducts automatic searches of Web sites, retrieves information, and creates a database index of Web pages or files that can be searched by a user.

stub network

A network with a single routing path into and out of the network. It is a highly technical term not often used outside of the telecommunications specialty.

surfing

In Internet terms, "surfing the Web" refers to Internet users following hypertext links on Web pages that often lead to unknown and interesting Web sites.

technological change

Improvements in productive processes that are a central element in economic growth. Technological changes enable more output to be produced from unchanged quantities of the inputs of labor and capital in the production of goods and services.

temporary help agency

A firm that provides workers to client companies. Temporary help agencies issue all paychecks, pay taxes, and make required contributions to unemployment insurance and Social Security. (See also contract company.)

tenure

Length of job retention, measured in weeks, months, or years. Retention rate is tenure expressed as a percentage of workers who are with their employers after a defined period, such as one year.

traditional workforce

A generic term that includes workers who have an expectation of continued employment and are not in an alternative work arrangement.

unemployed

Those persons who do not have a job, want a job, and have made specific efforts in the prior 4 weeks to find a job. Also included are persons on layoff waiting to be recalled; such persons do not have to be looking for a job to be counted as unemployed. (See entry for labor force.)

Uniform Resource Locator (URL)

A resource address on the Internet. A URL can be represented by a series of numbers or letters. An example of a URL is http://www.dol.gov.

URL

See Uniform Resource Locator.

wages

The cash portion of compensation from employment. Total compensation includes both wages and benefits.

Webcasting

The process of distributing an audio or video feed over the Web.

Web page

A machine-readable document available on the Internet that has a Web address or URL. Most commonly, a Web page is a file written in HTML, stored on a server. A Web page can be a home page, which is the top level document of a Web site associated with a person, company, organization, or subject, or any document on a Web site containing information or links.

Web site

Generally defined as any collection of related information or data accessible via the Internet. Web sites are usually associated with a person, company, organization, or subject.

Welfare-to-Work Program

Enacted as part of the1997 Balanced Budget Act, the Welfare-to-Work program funds job creation, job placement, and job retention efforts to help long-term welfare recipients and noncustodial parents move into lasting, unsubsidized employment. The program is administered by the Department of Labor and the state and local workforce system.

Welfare-to-Work Tax Credit

A federal income tax credit that encourages employers to hire long-term welfare recipients. This tax credit can reduce employer federal tax liability by as much as $8,500 per new hire.

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wellness programs

Workplace-centered programs designed to promote the personal health of workers. May include health screening, fitness programs, nutritional counseling, and more.

worker autonomy

Worker control of the production, service, or information process using analytical and cognitive skills without traditional supervision.

worker teams

Groups of decision-making workers performing several production or service tasks, usually without the need for first- or second-level supervision in the worksite.

Workforce Investment Act

Enacted in August 1998, it is the nation's principal federally funded program to provide job training, employment, and training-related services to adults, dislocated workers, and at-risk youth. It is the foundation for America's Jobs Network. It replaces the Job Training Partnership Act and became fully effective in all states on July 1, 2000.

Work Opportunity Tax Credit

A federal income-tax credit that encourages employers to hire certain job seekers and can reduce employer federal tax liability.

workplace

Any place where work is performed. Some workplaces are mobile worksites, for example, telephone repair or package delivery services.

World Wide Web (WWW)

Commonly referred to as the Internet or the "Web," it is a universe of network-accessible information and services that literally spans the world. The World Wide Web originated at the CERN High Energy Physics laboratories in Geneva, Switzerland, and was introduced to the general public in 1991. Technically, the WWW is an Internet client-server information retrieval system of gigantic proportions. The collection of documents and other items on the Web can be cross-referenced or "linked" so that they can be accessed by the public.

WOTC

See Work Opportunity Tax Credit.

WWW

See World Wide Web.

XML

See Extensible Markup Language.

Internet Resources on *Futurework* Topics

DEPARTMENT OF LABOR SITES OF INTEREST

America's Labor Market Information System (includes America's Talent Bank, America's Job Bank, O*NET, America's Learning Exchange)
www.doleta.gov/almis/index.htm

America's Career InfoNet
www.acinet.org/acinet/

Bureau of Labor Statistics
www.bls.gov/

Childcare and eldercare
www.dol.gov/dol/wb/public/childcare/main.htm

Drugs and alcohol in the workplace
www.dol.gov/dol/workingpartners.htm

elaws
www.dol.gov/elaws/

Equal pay
www.dol.gov/dol/wb/ep.htm

Family and Medical Leave Act
www.dol.gov/dol/esa/fmla.htm

Federal Mine Safety and Health Act
www.msha.gov/REGS/ACT/ACTTC.HTM

Health benefits
www.dol.gov/dol/pwba/public/health.htm

ILAB's International Child Labor Program
www.dol.gov/dol/ilab/public/programs/iclp/

Information on ergonomics
www.osha-slc.gov/SLTC/ergonomics/index.html

Occupational Safety and Health Act
/www.osha-slc.gov/OshAct_toc/OshAct_toc_by_sect.html

One Stop Career Center
www.ttrc.doleta.gov/onestop/

OSHA's Voluntary Protection Programs
www.osha.gov/oshprogs/vpp/

Pension benefits
www.dol.gov/dol/pwba/public/pension.htm

Presidential Task Force on the Employment of Adults with Disabilities
www.dol.gov/dol/_sec/public/programs/ptfead/main.htm

Welfare-to-Work
www.usworkforce.org/

Youth Opportunity Movement
www.yomovement.org/

OTHER SITES OF INTEREST

Bureau of Census
www.census.gov/

Council of Economic Advisors
www.whitehouse.gov/WH/EOP/CEA/html/index.html

Department of Commerce
www.doc.gov/

Department of Education
www.ed.gov

Department of Health and Human Services
www.hhs.gov

Equal Employment Opportunity Commission
www.eeoc.gov

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Families and Work Institute
www.familiesandwork.org/

Federal Training Technology Initiative
www.fed-training.org

National Partnership for Women and Families
www.nationalpartnership.org/

President's Committee on Employment of People with Disabilities
www.pcepd.gov/pcepd/

School-to-Work
www.stw.ed.gov/

Small Business Administration
www.sba.gov

Notes

Chapter 1

[1] U.S. Bureau of the Census, Resident Population Projections of the United States: Middle, Low, and High Series, 1996 to 2050, March 1996, http://www.census.gov/population/projections/nation/npaltsrs.txt; downloaded May 31, 1999. Middle series is used above.

[2] Jennifer Cheeseman Day, Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050, U.S. Bureau of the Census, Current Population Reports, P25-1130, U.S. Government Printing Office, Washington, D.C. 1996; February 1996, table C-2 and p.2. http://www.census.gov/prod/1/pop/p25-1130; Middle projections used above. Change is estimated from July 1, 1994 to 2050.

[3] U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey, first quarter 1999.

[4] U.S. Bureau of the Census, Resident Population Projections of the United States: Middle, Low, and High Series, 1996 to 2050, March 1996, above information from pp. 2–9 and Table F. There are expected to be 4 milliondeaths in 2050.

[5] Day, p. 7. Data as of 1995.

[6] U.S. Bureau of the Census, Resident Population Projections of the United States: Middle, Low, and High Series, 1996 to 2050. p. 10.

[7] Day, p. 4.

[8] U.S. Bureau of the Census, Resident Population Projections of the United States: Middle, Low, and High Series, 1996 to 2050, Table B1.

[9] Day, p. 1.

[10] U.S. Bureau of the Census, How We're Changing: Demographic State of the Nation: 1997, Current Population Reports, P23-193, March 1997, p. 2.

[11] Day, p. 1.

[12] Jennifer C. Day and Andrea E. Curry, Educational Attainment in the United States: March 1998 (Update), P20-513, October 1998, U.S. Department of Commerce, Economics and Statistics Administration, Census Bureau. Time series available at http://www.census.gov/population/socdemo/education/tablea-02.txt

[13] Jennifer C. Day and Andrea E. Curry, Educational Attainment in the United States: March 1997, P20-505, May 1998, U.S. Department of Commerce, Economics and Statistics Administration, Census Bureau, pp. 2–4.

[14] U.S Department of Labor, Bureau of Labor Statistics, Current Population Survey. See "More High-School Graduates Enrolling in College." The Editor's Desk, October 19, 1998. Additional information is available from news release U.S. Department of Labor USDL 98–171, "College Enrollment and Work Activity of 1997 High School Graduates."

[15] Day and Curry, p. 3.

[16] National Organization on Disability/Louis Harris & Associates, "1998 N.O.D./Harris Survey of Americans with Disabilities." Press release available at http://www.nod.org/presssurvey.html.

[17] U.S. Department of Labor, Bureau of Labor Statistics, "More People Are Working Year-Round." The Editor's Desk, December 8, 1998. These data are a product of the CPS. Additional information is available from news release USDL 98-470, "Work Experience of the Population in 1997."

[18] U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.

[19] U.S. Department of Labor, Bureau of Labor Statistics, Report of the American Workforce, 1999, forthcoming (Chapter 3, table 3-5 in draft).

[20] U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.

[21] William Goodman, "Boom in Day Care Industry the Result of Many Social Changes," Monthly Labor Review, August 1995, p. 5.

[22] U.S. Department of Health and Human Services, Administration for Children and Families, http://www.acf.dhhs.gov/news/whregfs.htm. Data extracted April 10, 1999.

[23] U.S. Department of Labor, Bureau of Labor Statistics, Survey of Income and Program Participation. See "3 of 10 Persons with Severe Disabilities Are Active in the Labor Market." The Editor's Desk, November, 5, 1998 and "Education Has Positive Impact on Labor Market Activity of Severely Disabled." The Editor's Desk, November, 12, 1998. For more information, see Thomas W. Hale, Howard V. Hayghe and John M. McNeil "Persons with Disabilities: Labor Market Activity, 1994," Monthly Labor Review, September 1998. Data in these reports are a product of the Bureau of the Census.

[24] U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.

[25] U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Surveys. See "More Than a Third of Youths Combine School and Jobs." The

Editor's Desk, May 13, 1999. Additional information is available from "Employment Experience and Other Characteristics of Youths: Results from a New Longitudinal Survey," news release USDL 99–110.

[26] Twenty-eight percent of the students who held employee jobs worked both while school was in session and also during the summer, 8 percent worked only during the school months, and another 6 percent worked only during the summer months.

[27] U.S. Department of Labor, Bureau of Labor Statistics, National Longitudinal Survey. See "People Average 8.6 jobs from Ages 18 to 32," The Editor's Desk, October 13, 1998.

[28] U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, November 1998, Table A-16.

Chapter 2

[1] Employment is projected to increase by 14 percent in the 1996–2006 period, with unemployment projected to be 5.4 percent in 2006. This slower growth rate than the preceding decade is due to a decreasing rate in the growth of the labor force.

[2] *Economic Report of the President,* transmitted to the Congress February 1997, Washington, D.C.: United States Government Printing Office, 1997, p. 383, Table B-48.

[3] Paul Fronstin, "Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 1998 Current Population Survey," *EBRI Issue Brief*, December 1998, p. 4.

[4] Joe Manning, "Health Care Costs to Rise with Increasing Age of Employees," *Washington Times,* May 17, 1999.

[5] Pension Benefits Guaranty Corporation, *1998 Annual Report,* Washington, D.C.: 1999, p. 6.

[6] U. S. Department of Labor, *Private Pension Plan Bulletin: Abstract of 1995 Form 5500 Annual Reports,* Washington, D.C.: Spring 1999, p. 67.

[7] Stephanie Armour, "IBM Retools Pensions," *USA Today*, May 4, 1999, p. 1.

[8] U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.

[9] For more information see George J. Borjas, Richard B. Freeman, and Lawrence F. Katz, "How Much Do Immigration and Trade Affect Labor Market Outcomes?," *Brookings Papers on Economic Activity,* No. 1, 1997, pp. 1–90.

[10] Lawrence Katz and David H. Autor, "Changes in the Wage Structure and Earnings Inequality," May 1998, pp. 86–87, prepared as a chapter for Orley Ashenfelter and David Card, editors, *Handbook of Labor Economics,* Amsterdam, North-Holland, forthcoming.

[11] David Card. *Falling Union Membership and Rising Wage Inequality: What's The Connection?* Cambridge, MA: National Bureau of Economic Research, Working Paper No. 6520, April 1998.

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[12] Council of Economic Advisors, "Explaining Trends in the Gender Wage Gap," June 1998, p. 4.
[13] U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings,* January 1999, p. 215.
[14] U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey. There are no publicly reported annual data that are available on the relative earnings of Asian women and men, due to their small sample size in the primary data sets used for these calculations.
[15] Harry J. Holzer, "Racial Differences in Labor Market Outcomes Among Men," unpublished, Michigan State University, December 1998 and U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.
[16] Mitchell P. LaPlante, Joe Kennedy, S. Stephen Kaye, and Barbara L. Wenger, Disability Statistics Abstract: Disability and Employment, No. 11, U.S. Department of Education, National Institute on Disability and Rehabiitation, January 1996.
[17] *1999 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors' Insurance and Disability Insurance Trust Funds,* March 1999.

Chapter 3

[1] "Workforce" includes women who are employed and women who are unemployed and looking for work.
[2] Howard V. Hayghe, "Developments in Women's Labor Force Participation," *Monthly Labor Review,* September 1997, p. 41.
[3] Kristin E. Smith and Amara Bachu, "Women's Labor Force Attachment Patterns and Maternity Leave: A Review of Literature," U.S. Bureau of Census, Population Division Working Paper No. 32, January 1999, p. 1.
[4] Smith and Bachu, p. 6.
[5] U.S. Department of Labor, Bureau of Labor Statistics, press release, "Employment Characteristics of Families in 1998," http://stats.bls.gov/news.release/famee.t02.htm, May 25, 1999.
[6] Anne E. Winkler, "Earnings of Husbands and Wives in Dual-Earner Families," *Monthly Labor Review,* April 1998, p. 42.
[7] Council of Economic Advisors (CEA), *Families and the Labor Market, 1969–99: Analyzing the "Time Crunch,"* May 1999, p. 6.
[8] Hayghe, pp. 42, 45.
[9] Howard Fullerton, "Labor Force 2006: Slowing Down and Changing Composition," *Monthly Labor Review,* November 1997, pp. 23–38.
[10] Winkler, p.42.
[11] Hayghe, p. 42 and BLS Press Release, "Employment Characteristics of Families in 1998," http://www.bls.gov/news.release/famee.toc.htm, May 25, 1999.
[12] Hayghe, p. 43.

[13] Smith and Bachu, p. 2.

[14] U.S. Department of Commerce, Census Bureau Report, "Growth in Single Fathers Outpaces Growth in Single Mothers," http://www.census.gov/Press-Release/www/family.html, December 11, 1998.

[15] Single women are considered those "without a spouse present."

[16] CEA, p. 4.

[17] The percent of mothers of children under age six, with a spouse present, who were employed increased from 32 percent in 1975 to 61 percent in 1998. The corresponding percentages for mothers without a spouse in the household were 42 and 59 percent. Goodman, p. 5.

[18] Joe Kennedy, Mitchell P. LaPlante, and H. Stephen Kaye, "Need for Assistance in the Activities of Daily Living," *Disability Statistics Abstract,* Number 18, June 1997, p. 1.

[19] Diane E. Lewis, "Caring for a parent often exacts a toll on job," *Boston Sunday Globe,* May 2, 1999, p. C-1.

[20] U.S. Department of Labor, Women's Bureau, "Work and ElderCare: Facts for Caregivers and their Employers," http:www.dol.gov/dol/wb/public/wb_pubs/elderc.htm.

[21] The MetLife Study of Employer Costs for Working Caregivers, Metlife Mature Market Group, Westport, CT, June 1997, p. 9.

[22] Ellen Galinsky and James T. Bond, *The 1998 Business Worklife Study,* New York: Families and Work Institute, 1998, p.48.

[23] Metlife pp. 7, 33.

[24] Harriet B. Presser and Amy G. Cox, "The Work Schedules of Low-Educated American Women and Welfare Reform," *Monthly Labor Review,* April 1997, p. 26.

[25] Fathers are the caregivers for their children 18 percent of the time; grandparents — 16 percent; other relatives — 9 percent. U.S. Bureau of Census press release, "While Moms Work, Dads or Other Relatives Care for 4 in 10 Preschoolers," http://www.census.gov/Press-Release/www/children.html.

[26] This assumes a mandated 182 days of school x 7 hours a day=1274 hours versus work 8 hours a day, 5 days a week for 50 weeks. This estimate does not consider child's sickness nor does it consider travel time to work.

[27] Presser and Cox, p. 26.

[28] Presser and Cox, p. 28.

[29] Galinsky and Bond, p. 47.

[30] Galinsky and Bond, p. V.

[31] U.S. Department of Labor, Women's Bureau, "Work and Elder Care: Facts for Caregivers and their Employers," http://www.dol.gov/dol/wb/public/wb_pubs/elderc.htm.

[32] Shelley Donald Coolidge, "Stretching the Rules," *The Christian Science Monitor,* May 3, 1999.

[33] U.S. Department of Treasury, "Investing in Child Care: Challenges Facing Working Parents and the Private Sector Response," 1998, pp. 20–21.

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[34] James T. Bond, Ellen Galinsky, and Jennifer E. Swanberg, *The 1997 National Study of the Changing Workforce,* No. 2, New York: Family and Work Institute, 1997, p. 5.

[35] In 1969, 28 percent of women 25 to 54 years of age worked year round, full time; by 1997 the percentage had increased to 50 (although there was a general decline for men over same time period). U.S. Department of Labor, Bureau of Labor Statistics, *Report of the American Workforce, 1999.*

[36] U.S. Department of Labor, Bureau of Labor Statistics, *Report of the American Workforce, 1999.*

[37] Winkler, p. 42.

[38] U.S. Department of Labor, Bureau of Labor Statistics, *Report of the American Workforce, 1999.*

[39] CEA, p. 3.

[40] Philip L. Rones, Randy E. Ilg, and Jennifer M. Gardner, "Trends in Hours of Work Since the Mid-1970s," *Monthly Labor Review,* April 1997, p. 4.

[41] U.S. Department of Labor, Bureau of Labor Statistics, *Report of the American Workforce, 1999.*

[42] Bond, Galinsky, and Swanberg, pp.5–6.

[43] Many of these workers are likely in informal flexible schedules rather the formal plans reported in the Employee Benefits survey, which says flexible schedules are offered to less than 6 percent of employees. BLS Press Release, "Workers on Flexible and Shift Schedules in 1997," http:\\www.bls.gov/news.release/flex.nws.htm, March 26, 1998.

[44] Presser and Cox, p. 25.

[45] Ellen Galinsky and Arlene A. Johnson, *Reframing the Business Case for Work-Life Initiatives,* New York: Family and Work Institute, 1998, p. 6.

[46] U.S. Department of Labor, Bureau of Labor Statistics, *Report of the American Workforce, 1999.*

[47] Galinsky and Bond, pp. V, 111.

[48] U.S. Department of Labor, Women's Bureau, "Work and ElderCare: Facts for Caregivers and Their Employers."

[49] Among the occupations that are expected to grow most rapidly in the future, most have a high percentage of workers working nonstandard hours or nonstandard days, thus increasing the need for childcare during non-standard hours. Presser and Cox, p. 32.

[50] The Census Bureau has estimated a dependency ratio, which shows how many children and elderly there are for every 100 people, aged 18 to 64, who are working. The middle series projections show the dependency ratio would decline from 64 in 1995 to 60 in 2010. Moderate increases are projected to occur by 2020 (to 68) and significant increases by 2050 (80). U.S. Bureau of Census, "Resident Population Projections of the United States: Middle, Low, and High Series, 1996–2050," March 1996, http://www.census.gov/population/projections/nation/npaltsrs.txt.

[51] Katherine S. Newman, "On the High Wire: How the Working Poor Juggle Job and Family Responsibilities," paper for the Conference on Balancing Acts: Easing the Burdens and Improving the Options for Working Families, June 1999.

[52] Bond, Galinsky, and Swanberg.

Chapter 4

[1] James C. Franklin, "Industry Output and Employment Projections to 2006," *Monthly Labor Review,* November 1997, pp. 39–57.

[2] "Workplace of the Future: Safer, Smaller, and Fully at the Mercy of Computers," http://www.eweek.org/1998/news/Eweek/workplace.html.

[3] *The Wall Street Journal,* "Work Week", May 11, 1999, p. 1.

[4] Beth Belton, "Internet Generated $301 Billion Last Year," *USA Today,* June 10, 1999, p. 1A.

[5] Organisation for Economic Cooperation and Development, *The Economic and Social Impact of Electronic Commerce,* Preliminary Finding and Research Agenda, 1999, p. 27.

[6] These wage premiums are due in part to differences in occupation, industry, and education and are reduced to roughly 15 percent on average when these other factors are taken into account.

[7] Sandra E. Black and Lisa M. Lynch, "How to Compete: The Impact of Workplace Practices and Information Technology on Productivity," National Bureau of Economic Research Working Paper No. 6120, August 1997.

Chapter 5

[1] Data on workplace fatalities are derived from the Bureau of Labor Statistics' Census of Fatal Occupational Injuries.

[2] Data on workplace injuries and illnesses are derived from the Bureau of Labor Statistics' Survey of Occupational Injuries and Illnesses.

[3] R. Bachman, "Violence and Theft in the Workplace." National Crime Victimization Survey. Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics.

[4] U.S. Equal Employment Opportunity Commission, Enforcement Statistics, http://www.eeoc.gov/stats/all.html

[5] Study by Fair Employment Council of Greater Washington, Inc., 1990–1992.

[6] U.S. General Accounting Office, Immigration Reform: Employer Sanctions and the Question of Discrimination, Report to the Congress, GAO/GGD-90-62, March 1990, p. 48.

[7] David Neumark, Roy Blank, and Kyle Van Nort, "Sex Discrimination in Restaurant Hiring: An Audit Study," National Bureau of Economic Research Working Paper No. 5024, 1995.

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[8] Sleep Foundation, http://www.sleepfoundation.org/PressArchives/NewSurvey.html

[9] 1992 National Survey of Worksite Health Promotion Activities, Public Health Service, U.S. Department of Health and Human Services. NTIS report No. PB93- 100204.

Chapter 6

[1] Susan Page, "E-world Fuels U.S. Economy," Report Says, *USA Today,* June 22, 1999, p. 1A.

[2] Standard Resources, Inc., "A PC's Life Span is Getting Shorter," *USA Today,* June 22, 1999, p. 3A.

[3] Internet Economy Indications, "Internet Economy Grows," *Washington Times,* June 12, 1999, p. C7.

[4] Cisco Releases Study Measuring Jobs and Revenues Tied to Internet Economy, http://www.cisco.com/warp/public/146/june99/23.html, June 10, 1999.

[5] Robert D. Atkinson and Randolph H. Court, *The New Economic Index: Understanding America's Economic Transformation,* Washington, D.C.: The Progressive Policy Institute, November 1998, p. 19.

[6] Maryann Jones Thompson, "A Half of U.S. Homes Now Have PCs," *The Industry Standard,* June 7, 1999.

[7] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence,* New York: Viking Publishers, 1999.

[8] CommerceNet/Nielsen Internet Demographic Survey, April 1999, http://www.comerce.net/research/stats/wwwpop.html.

[9] Atkinson and Court, p. 31.

[10] U.S. Department of Commerce, National Telecommunications and Information Administration, *Falling Through the Net: Defining the Digital Divide,* July 1999.

[11] Joint Center for Political and Economic Studies, National Opinion Polls, 1999.

[12] Michael Erbschole, Computer Economics Press Release, "Computer Virus Attacks Have Cost Businesses $7.6 Billion in 1999," June 18, 1999.

[13] Richard W. Judy and Carol D'Amico, *Workforce 2020,* Indianapolis, Indiana: Hudson Institute Inc., 1997, p. 17.

[14] Judy and D'Amico, p. 18.

[15] Michaela D. Platzer, *Cyberstates 3.0: A State-By-State Overview of High Technology Industry,* American Electronic Association, June 1999.

[16] Office of the Vice President release on the U.S. Department of Commerce report, *The Emerging Digital Economy II,* June 21, 1999. In 1997, workers earned an average of $52,920 in IT industries, versus the average earned by all workers, $29,787.

17 Atkinson and Court, p. 9.
18 U.S. Department of Defense, Military Health System, Computer/Electronic Accommodations Program, http://www.tricare.osd.mil/cap/accommodations/accommodation.html.
19 American Management Association, "Summary of Key Findings - Genetic Testing," 1999 American Management Association Survey on Workplace Testing: Medical Testing, http://www.amanet.org/research/monit.
20 American Management Association, "Summary of Key Findings," *1999 American Management Association Survey on Workplace Monitoring and Surveillance,* http://www.amanet.org/research/monit/intro.htm.
21 Jerry Useem, "For Sale On-line: You," *Fortune*, July 5, 1999, p. 70.
22 International Labour Organization, "Child Labour: Targeting the Intolerable," 1998; and other information compiled from ILO reports.
23 Robert W. Bednarzik, "An Analysis of U.S. Industries Sensitive to Foreign Trade, 1982–87," *Monthly Labor Review,* February 1993, pp. 15–31.
24 U.S. Department of Labor, Bureau of Labor Statistics press release, "Worker Displacement, 1995–97," http://stats.bls.gov/news.release/disp.toc.htm, August 19, 1998.

Chapter 7

1 Norman Bowers and Paul Swaim, "Recent Trends in Job Training," *Contemporary Economic Policy,* Vol. XII, January 1994, pp. 79–88.
2 Joseph E. Hight, "Young Worker Participation in Post-School Education and Training," *Monthly Labor Review*, June 1998, pp. 14–21.
3 The data on participation in post-school education and training are from Hight. For evidence on the use of computers, see Alan B. Krueger, "How Computers Have Changed the Wage Structure: Evidence from Microdata, 1984–89," *Quarterly Journal of Economics,* February 1993, pp. 79–88.
4 "More than One-Third of Job Applicants Deficient in Reading & Math Skills, Says American Management Association Survey," American Management Association, April 12, 1999, http://www.amanet.org/research/specials/skilshrt.htm.
5 Thomas Bailey, "Discretionary Effort and the Organization of Work: Employee Participation and Work Reform Since Hawthorne," unpublished, Teachers College, Columbia University, New York, 1993.
6 Maury Gittleman, Michael Horrigan and Mary Joyce, "Flexible Workplace Practices: Evidence from a Nationally Representative Survey, *Industrial & Labor Relations Review,* October 1998.
7 Jeffrey King, "High-Performance Work Systems and Firm Performance," *Monthly Labor Review,* May 1995.
8 King.

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[9] Douglas Kruse, *Profit Sharing: Does it Make a Difference?* Upjohn Institute, Kalamazoo, MI, 1993.

[10] Robert W. Bednarzik, "An Analysis of U.S. Industries Sensitive to Foreign Trade, 1982–1987," *Monthly Labor Review,* February 1993, pp.15–31.

[11] Bureau of Labor Statistics, the Survey of Employer-Provided Training.

[12] Robert W. Bednarzik, The Flexible Enterprise: An Overview of the United States, paper prepared for OECD project on Technological and Organizational Change and Labor Demand, U.S. Department of Labor, Washington, D.C., 1996.

[13] Thomas Bailey, "Discretionary Effort and the Organization of Work: Employee Participation and Work Reform Since Hawthorne," unpublished, Teachers College, Columbia University, New York, 1993.

[14] Steven Hipple, "Contingent work: results from the second survey," *Monthly Labor Review*, November 1998, p. 25.

[15] The Bureau of Labor Statistics collected data on contingent and alternative work arrangements in 1999 but at the time of this writing, these data were not yet available.

[16] Hipple, pp. 22–35.

[17] These categories of alternative work arrangements overlap with the category of contingent workers.

[18] Sharon R. Cohany, "Workers in Alternative Employment Arrangements: A Second Look," *Monthly Labor Review,* November 1998, pp. 3–21.

[19] Chris Tilly, "Reasons for the Continuing Growth of Part-time Employment," *Monthly Labor Revie*w, March 1991, p. 10-17; See U.S. Department of Labor, Bureau of Labor Statistics, "Household Data Annual Averages, Employed and unemployed full- and part-time workers by age, sex, and race," http://stats.bls.gov/pdf/cpsaat8.pdf.

[20] John F. Stinson, Jr., "New Data on Multiple Jobholding Available from the CPS," *Monthly Labor Review,* March 1997, p. 4.

[21] Susan N. Houseman, "Temporary, Part-time, and Contract Employment in the United States: A Report on the W.E.Upjohn Institute's Employer Survey on Flexible Staffing Policies," (Report to the U.S. Department of Labor) November 1996, revised June 1997, p.12.

[22] Houseman, p. 20.

[23] Houseman, pp. 24–29.

[24] Cohany, pp. 3–21.

[25] Cohany, p.18.

[26] U.S. Department of Labor, Bureau of Labor Statistics, Contingent and Alternative Employment Arrangements, February 1997," USDL 97-422, December 2, 1997.

[27] Anthony P. Carnevale, Lynn A. Jennings, and James M. Eisenmann, "Contingent Workers and Employment Law," in *Contingent Work: American Employment Relations in Transition,* ed. Kathleen Barker and Kathleen Christiansen (Ithaca, N.Y.: Cornell University ILR Press, 1998).

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[28] *Report and Recommendations of the Commission on the Future of Worker-Management Relations,* December 1994, p. 35.

[29] U.S. Department of Labor, *Report on the American Workforce,* Chapter 2—The Many Facets of Skills, September 1999, forthcoming.

[30] For a series of seven articles on the "Downsizing of America," see *New York Times,* March 3 through March 8, 1996. Also see *USA Today*, February 19–21, 1996 for another series on worker dislocation fears, and *Business Week,* March 11, 1996 for a story entitled "Economic Anxiety."

[31] Jennifer M. Gardner, "Worker Displacement: a Decade of Change," *Monthly Labor Review,* April 1995.

[32] Steven Hipple, "Worker Displacement in an Expanding Economy," *Monthly Labor Review,* December 1997.

[33] Steven Hipple, "Ongoing Labor Market Strength Reduces Worker Displacement." *Monthly Labor Review,* 1999.

[34] Hipple, 1999.

[35] Ann Huff Stevens, "Persistent Effects of Job Displacement: The Importance of Multiple Job Losses," *Journal of Labor Economics,* 1997, vol. 15, No. 1, pp. 165–188.

[36] The most recent BLS data show that for men between 35 and 44 years of age, median years of tenure with their current employer was 6.5 years in January 1991, and it was 6.1 and 5.5 years in February 1996 and 1998, respectively. In contrast, in January 1983 and 1987, median tenure for this same age group of men was 7.3 and 7.0 years, respectively. Similarly, median years of tenure in current job was down for men between the ages of 25 and 34, though not quite so dramatically. For these younger men, median tenure in current job was 2.8 years in February 1998, down from 3.2 years in January 1983. Bureau of Labor Statistics, "Employee Tenure in 1998," News release, September 23, 1998, http://stats.bls.gov/news.release/tenure.toc.htm.

[37] David Neumark, Daniel Polsky and Daniel Hansen, "Has Job Stability Declined Yet? New Evidence for the 1990s," Working Paper No. 6330, National Bureau of Economic Research, Cambridge, Massachusetts, 1997.

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